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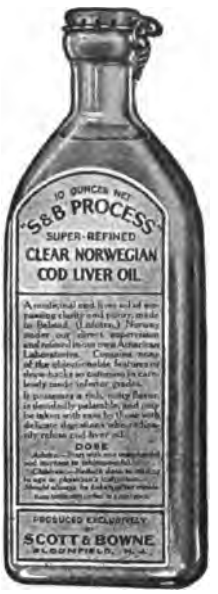
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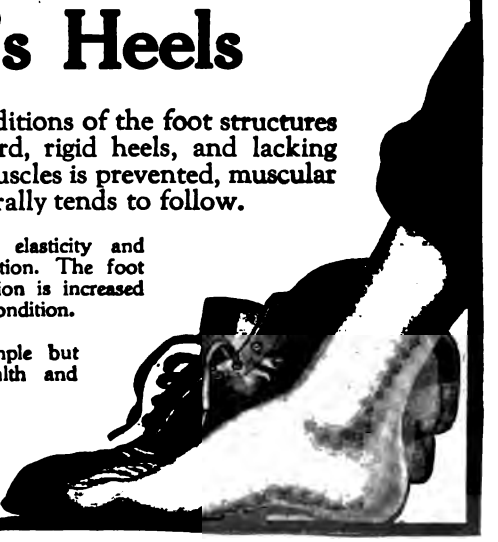
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THE patient is the sick man. He is the sufferer. It is he who seeks—and expects—relief. He is the one most concerned. What do you do for him?

You diagnose, you prescribe, and sometimes you *pro*scribe certain foods. But do you unreservedly rule out *for every case* eggs, milk, tomatoes, strawberries, red meat, and dozens of other foods for which some few people have idiosyncrasies? No! You first determine what foods, if any, would be harmful in *each particular case*, and rule accordingly.

Then why issue, as is too frequently done, a sweeping dictum against coffee?

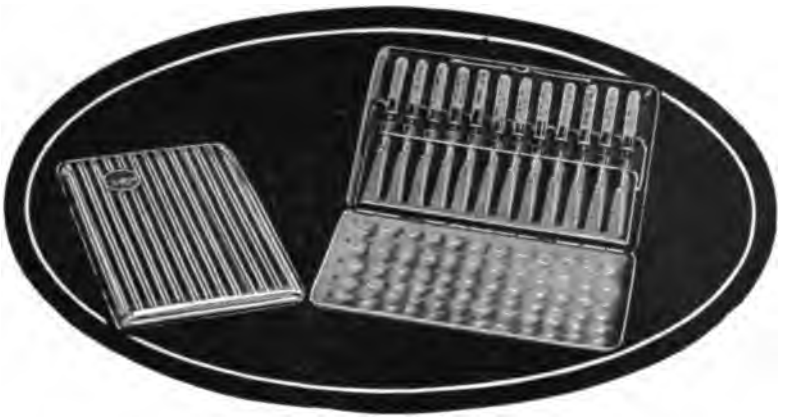
As you know, coffee can frequently be enlisted as a therapeutic aid. It is a mild cardiac stimulant; it relieves muscular and mental fatigue; it accelerates peristalsis; is mildly laxative; is an antidote for certain poisons; and is an appetite excitant. What greater stimulus to appetite is there than the rich aroma of steaming coffee? And maintaining a patient's appetite is important!

Dr. Julius Friedenwald and Dr. John Ruhrah, of the University of Maryland School of Medicine, Baltimore, in their joint work, "*Diet in Health and Disease*," frequently include coffee in the breakfast dietaries; and Dr. Torald Sollman, of Western Reserve University, Cleveland, in his "*Manual of Pharmacology*" says coffee "increases mental and physical efficiency, psychical stimulation, comfort and relief from muscular and mental fatigue and from their attendant unpleasant sensations. These effects may be useful in certain conditions, as in those exposed to severe hardship, hunger, fatigue, etc."

We believe a study of the cases in your own practice will convince you conclusively that there are few patients, indeed, for whom coffee is contra-indicated. We believe that such a study will convince you, too, that coffee can be enlisted as a beneficial agent bordering on the field of active therapy.

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The American Physician

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21723

Are Not Remedies for Ordinary Ailments Unduly Neglected?

Active Drugs Fallen Into Disuse

OLD MEDICAL LITERATURE deals with many drugs empirically, ascribing curative powers to many substances that modern science shows are possessed of little definite activity. Yet science may overlook an important point in drug activity, even as science ascribed no value to the tomato as a food while blissfully ignorant of the role played by vitamines and that the tomato is rich in these substances. It is wise for the scientist to be becomingly modest and to make an effort to explain why the clinician finds value in certain remedies concerning the activities of which science affords no light.

It is not to be wondered at that many undetermined remedies have fallen into disuse, and it is probably true that a large number of them never will be justified because actually possessed of no essential remedial value; but it is not that phase of the matter that we wish to discuss, but, rather, to direct attention to certain drugs of defined physiologic activity and that have, for various reasons, failed to obtain general favor in the eyes of the clinicians.

Arnica

Arnica in moderate doses slows the pulse and slightly raises the blood-pressure, while in larger doses it stimulates the vagus nerves and toxic doses paralyze these nerves; it is also a gastroenteric irritant.

The vagus may be involved from neoplasms on the floor of the skull, from the toxins of syphilis or diphtheria, or by alcoholic excesses, for instance; but muscarine and pilocarpine also stimulate the vagus, as do other drugs, especially the anesthetics; but the action of arnica is so uncertain, and in adequate doses it is so irritating, that when vagus stimulation is necessary it is better accomplished by drugs with less irritating qualities than by arnica. Here is a drug which has been recommended in a host of conditions, and which really does possess definite activity, yet with the extensive drug resources of modern times available arnica is going out for the simple reason that it is *unnecessary*.

Pomegranate

This is an exceedingly unpalatable drug which is usually vomited if administered in adequate dose, and it is quite toxic; yet there is no doubt at all that it possesses a specific toxic action on tapeworms, a solution of one part of its proximates in ten thousand in ten minutes causing their death. The drug contains four alkaloids naturally combined with tannin, in which the drug is rich; and pelletierine tannate has displaced the crude drug almost entirely, for this modern substitute for the crude drug, is almost insoluble in the stomach. Here is an instance wherein a drug with valuable properties is *too disagreeable to use in the crude form* and had almost passed out until its *active principles* became available.

Sparteine

This drug belongs to the uncertain coniine group; it paralyzes the respiratory and motor centers, as well as the pneumogastric, when given in large doses. The long use of sparteine as a heart remedy is not based on any proved action on the heart, and its use therein was probably based on the definite diuretic action of scoparius, from which sparteine is derived. We know now that it is the scoparin in scoparius that is diuretic, not the sparteine, and sparteine is rapidly going out of use. Here is an instance of the *wrong proximate principle being used.* Yet scoparin is uncertain in action and a decoction of scoparius is the better diuretic.

Senega

This drug has been proved to be quite toxic, for if its glucoside is injected into the circulation in large doses it kills promptly from paralysis of the respiratory center. Yet senega is a very active stimulating expectorant, *useful only in chronic conditions.* As the glucoside is absorbed very slowly from the stomach there need be no fear of toxic effects when used in moderate dosage, but it aggra-

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 82.

vates acute conditions. Senega is a drug that has largely gone out because *it was wrongly used.*

Aconite and Veratrum

These drugs were formerly well used, and some practitioners employ them properly today, never giving for over forty-eight hours and always in small dosage in sthenic conditions, never in asthenic ones. The use of the alkaloids derived from these drugs is never, in the opinion of the present writer, justified in internal medicine, and the misuse of these alkaloids brought two exceedingly useful drugs into disrepute. These drugs were *wrecked by the alkaloidal craze* but should come back into favor again.

Lobelia

There is no doubt whatever of the activity of lobelia. Consult any text-book. There are plenty of rational uses for lobelia; yet it has largely gone out of use because *its advocates were erratic and extreme in their claims for it.* Of recent years it was even urged as a sure thing for diphtheria, given hypodermatically or intravenously, while antitoxin was held up to ridicule by the lobelia cranks. This was pure folly and has caused discriminating physicians to abandon lobelia, which was and is a very useful drug. From the time of the Thompsonian craze lobelia has been the innocent cause of acrid discussion and all sorts of therapeutic nonsense.

Gelsemium

Here is a drug largely used in the South but which has never attained to any extensive vogue in the North, and its advocates have steadily maintained that its toxicity is almost negligible. It is probably less toxic in the southern fevers than in the northern uses thereof in diseases of the nervous system; but *gelsemium is very toxic and has fallen into disuse because employed in excessive dosage.* The drug is one of marked activity and great usefulness, especially in the treatment of certain nervous conditions. Doctor, read up gelsemium, both in Regular and Eclectic literature; then try it *carefully,* and you will be surprised at your former neglect of a fine remedy.

Pilocarpus

Theoretically, this drug and its chief alkaloid fills many indications; it is assuredly very active and its very discreet use is often productive of much good; but, in general, *it is too depressing.* Here is a drug of known activity largely going out of use: doctors are afraid of it, and they use other and less depressing drugs to fill its indications. In a hospital ward, where the patient can be watched, pilocarpine is often of the greatest usefulness. The whole tendency is against the use of very depressing drugs, specially when they are, like pilocarpine, of little service except in dosage verging on the dangerously toxic.

Cannabis

This is another drug of great activity, but its preparations are notoriously *unreliable and uncertain.* When one is *sure* of his preparation, the drug is very useful within a narrow range. Consult the textbooks.

Comment

Perhaps some of the ultra-modern physicians will consider this subject as unimportant. Not so! In this day of advanced pathology and diagnostics, *remedies* for ordinary ailments are unduly neglected. Remedies must *not* be neglected, and we must do all we can to bring into modern usefulness the comparatively few defined drugs we have, even those which meet minor indications and meet them well. Symptomatic medication *is* important, despite our advances, and we cannot afford to allow really useful drugs to be discarded.

But there is always a reason, and this editorial which uses a few drugs as illustrations is to emphasize the fact that our present neglect of drugs, or certain ones, may be founded on the following facts: first, a drug may be neglected for the just and sufficient reason that it is unnecessary, a comment applicable to many remedies long in use; second, the wrong proximate principle may be used and the mistake be readily corrected, either by employing the right proximate or the whole drug; third, the whole drug may be too nasty to use, whereas its active principle should be used and may be very useful; fourth, the drug may be used under entirely wrong indications, whereas when used properly the agent is most valuable; fifth, the drug may pass into the discard by reason of some modern craze or style that runs its course, leaving therapeutic wreckage and nihilism behind; sixth, erratic and extreme claims for a drug turn the profession against it, whereas conservative claims may establish a proper place for the drug; seventh, a toxic drug may be used in excessive dosage, thus bringing it into disrepute, whereas proper dosage may show the great value to clinical medicine of a toxic agent; eighth, a drug may be so depressing that physicians are justly afraid of it, and lastly, the pharmaceutical preparations of a drug may be unreliable and thus an intrinsically useful remedy be neglected.

Modifying Milk for Sick Adults

TOP-MILK feeding for infants has been so successful in our hands that it was no surprise to find it equally useful in the case of many adults. There is great lack of tolerance for milk in many cases of achlorhydria, hyperchlorhydria, achylia gastrica and various gastro-intestinal diseases marked by hypersecretion, and unmodified milk seems to be really poisonous to some persons. We are inclined to attribute this intolerance to the casein content.

Renvall made a good suggestion that has worked out well in practice: he feeds diluted cream. We have employed it by procuring a good double cream and whipping it up stiff, or procuring it already whipped from the nearest soda fountain. With an ordinary rotating egg-beater very gradually add water, continuing the whipping actively during the process, until the mixture is one-fourth cream and three-fourths water, add a little salt, and feed cold or iced. Carbonated water may be used as a diluent. Remember that ordinary cream will not whip.

Another good plan is to prepare malted milk by adding the powder to fairly warm water and incorporating well; then add pure cream to the mixture, put on ice for an hour, and serve with a little grated nutmeg and a spurt or two from a siphon of carbonated water. Powdered milk may be used if malted milk does not agree. In both of these products the casein has been flaked or modified.

If a hot drink is desirable, we find a reversal of the usual coffee and cream mixture, *viz.*, cream flavored with coffee, to work nicely. Use ordinary cream and heat it in a double boiler; add a little strong coffee, and serve.

Our Medical Schools Over-Manned

AN ARMY with too many officers and few privates is often played up in comic opera, but it actually exists in real life, much to the disadvantage of the army. Yet such a condition exists in our medical schools. Eliminating the nondescript schools and those giving only the first two years of a medical course, there are 14,132 medical students enrolled in the schools of the United States, and 7589 professors, assistant professors, assistants, demonstrators, etc., to instruct these students, or 1.87 students to each teacher—one teacher to less than two students. What a situation! It is pedagogically ridiculous and economically wasteful.

There is almost no parallel to this situation in schools giving instruction along other lines, but it is actually growing worse in the medical schools. No wonder that medical education is costing too much and that our courses are unbalanced, as all of these specialist professors insist on giving lectures, demonstrations, etc., filling the hours with predigested smattorings of a lot of inconsequentials and leaving insufficient time for things of greater weight and importance to the student.

This condition is largely due to a host of practitioners, few of whom are *real* teachers, crowding on to facilities to boost their own practices, and it is vastly unfair to the students. We have met three recent graduates lately who have just entered practice, and every one was studying therapeutics and materia medica, for they had suddenly discovered they knew almost nothing of these subjects and vitally needed to know them. These students are angry at their professors for failing to teach them the things they need in order to make a living from practice. It is time for about five thousand professorial resignations.

Gastric Neuroses

Nervous dyspepsia is a very frequent complaint. It is characterized by both gastric and nervous symptoms. On the gastric side we have as prominent symptoms anorexia, nausea and vomiting, and gaseous and acid eructations. Among the nervous symptoms are general depression, dizziness and headache. There is a total absence of demonstrable anatomical lesions in the stomach, and a predominance of gastric and nervous symptoms as above. These cases are frequently classified under neurasthenia. Occasionally they may and do occur in connection with definite organic lesions. Reflexly, disturbances of the nervous system may result from gastric troubles.

Classifying the *drugs* for the nervous symptoms we have: (1) *sedatives and anti-spasmodics,* as valerian, the bromides, cannabis indicae and sumbul; (2) *general tonics and stimulants,* as strychnine and nux vomica; (3) *narcotics and antineuralgics,* as codein, opium, veronal and aspirin.

Certain disturbances of the stomach are secondary to nervous affections, notably the gastric crises in syphilis, the vomiting of meningitis and brain tumor, and the various psychoses. Then, too, irritants such as tobacco acting on the secretary nerves, also pylorospasm, chronic appendicitis and diseases of the gall-bladder and genitourinary tract not infrequently give rise to various gastric symptoms.

The *neuroses* are classified as (1) *motor;* (2) *sensory;* (3) *secretory.* For the *sensory* group sedatives, narcotics and antineuralgics are used. For the *depressive* group the stimulants are indicated. For the *secretory and motor,* the alkalies, HCl and the bitter stomachics.

Gastric lavage is also of use in prolonged pylorospasm with distension, and in the depressive and irritative conditions.

Hydrotherapy is of value in the form of hot water bag to the epigastrium, hot and cold water coil, ice bags, general baths as cold sponges in the morning, and sometimes a hot bath at night with a hot drink to induce sleep. Many needless abdominal sections are performed in these cases, hence a correct diagnosis is of paramount importance.

Pylorospasm may be due to a number of organic conditions as ulcer, erosion, carcinoma, etc. The chief symptoms are sudden shock, cramp-like pain in epigastrium with eructations and vomiting. The treatment consists in regulation of diet, change of scene,

if possible, gastric lavage, belladonna internally and hot applications.

In *Hypochlorhydria* there is a general diminution of all secretions. This also occurs in chronic gastritis and carcinoma of stomach. The treatment is dietetic, a carbohydrate diet, small feedings at frequent intervals, and dilute HCl, 10 to 20 minims in water.

Nervous vomiting occurs in young women, and the nervous symptoms are predominant. The vomiting may sometimes persist for months. The condition may be controlled by regulation of diet, building up patient, change of scene, mental and physical rest, and rectal or duodenal alimentation if necessary. For the gastric symptoms, sod. bicarbonate, gentian and gastric lavage, in addition to above. For the nervous symptoms, give sod. bromide, veronal at bed-time, and after two week's gentian before meals. Where the gastric symptoms predominate, we use Tr. cannab. ind. and valerian in place of bromides. Cerium oxalate and bismuth are useful for nausea.

It is the general treatment, physical and mental rest, and a thorough search for and removal of the cause, if possible, which are most important in this distressing condition.

Treatment of Tuberculosis in General Hospitals

IN 1916 the National Tuberculosis Association advocated the plan of opening tuberculosis wards in general hospitals, and at the 1921 meeting of the American Medical Association this plan was endorsed. There are at least two million tuberculous persons in the Union and it is possible to admit only a small proportion of them to special tuberculosis institutions. The help of the general hospital is needed. Not that we approve of the plan of herding large numbers of the tuberculous indiscriminately together, for we do not; but there are many cases needing hospitalization and that ought to have it near to their homes, not at some far distant point.

The public generally, as well as the incipient case of tuberculosis, have a horror of the special tuberculosis institution, and for this horror there is quite a little statistical basis, as well as some very human, even if mistaken, reasons. Furthermore, this plan would keep the family and the family physician in touch with the patient, which is a very desirable thing. The half-way house to this plan is the recently advocated county tuberculosis institution, a plan not yet proved out as regards efficiency.

We believe it is a mistake to shoo the general practitioner off the field of tuberculosis work; for, rather, the sensible thing to do, and the practical one as well, is to engage the interest and active aid of every capable physician in the fight against tuberculosis; it is too big a proposition to entrust wholly to the specialist or to special institutions.

COMING IN NEXT ISSUE

Surgery of the Thymus Gland, by Albert J. Ochsner, M.D., LL.D., and Frank H'Doubler, M.D., Ph.D.

The thymus belongs to the so-called group of glands of internal secretion, being particularly closely related to the thyroid. In cases of hyperplastic thymus which cannot be relieved by deep X-ray therapy, in the young or adult, thymectomy is indicated if there have been grave signs or symptoms of tracheal stenosis or if there is ground for fearing them.

The operation may be expected to accomplish several results: mechanical relief, decreased secretion and stimulation to subsequent normal tissue regeneration.

Ovarian Hemorrhage, not Due to New-Growths or Pregnancy—With Report of Two Cases, by J. L. Bubis, M.D., F.A.C.S.

Abdominal hemorrhage is a grave condition and requires serious and prompt attention. To know clearly where the bleeding is from, and consequently to know how to proceed, is always a pressing question—a question of life and death. Dr. Bubis differentiates ovarian hemorrhage from the usual entities it is often confused with. It goes without saying this short and practical paper is well worthy of consideration and should not be overlooked.

Unscientific Practice—Are You a "Pill Doctor?" by John U. Fauster, M.D.

Dr. Fauster says that while he has due respect for the responsible pharmaceutical producers, and realizes that the refinements in therapy are in a large measure their handiwork and that the development of the biologicals is an epoch which could be realized only with their co-operation, yet, on the other hand, the nostrum vender, whether he solicits patronage from the medical profession or from the laity, cannot be too strongly condemned.

Some Common Forms of Nasal Obstruction in the Adult, by L. F. Long, M.D.

Dr. Long says it should be remembered that a deviated septum does not call for operation unless ventilation and drainage are interfered with. Also it is important to carefully examine these cases and institute proper treatment, since nasal obstruction causes great discomfort and produces many diseased conditions.

Acromegalia—With the Report of a Case Having Lymphatic Leukemia, by Hyman I. Goldstein, M.D.

Few diseases are as puzzling as acromegalia is. For some obscure reason, the pituitary body "goes wrong," becomes disturbed, appears to overfunction, and the skeletal tissues, like wild weeds, begin to thicken, enlarge, grow and overgrow. Both body-anatomy and body physiology become perverted, controlless, helpless and hopeless. Dr. Goldstein's case of acromegalia, complicated by lymphatic leukemia, studied thoroughly and presented in detail, is illustrious, interesting and instructive. It is one of the diseases rarely met and the paper should attract unusual attention.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Comparison of the Old and the New in the Treatment of Syphilis

Has Sufficient Time Elapsed to Completely Establish Ultimate Value of New Treatment?

By D. ALEXIS MYERS, M.D., D.D.S.
Professional Building, 1831 Chestnut Street, Philadelphia, Pa.

Assistant Oral Surgeon to Temple University Dental School, Philadelphia; late Syphilographer and Dermatologist to Walter Reed U. S. General Hospital, Washington, D. C.; late Dermatologist, Camp Merritt, N. J.

Treatment Is Individual; Never Routine

In the treatment of syphilis the old saying aptly applies, that medicine is an art as well as a science. Laboratory findings must never, and cannot, usurp the results of clinical findings. Injections of this or that medicament are not to be regarded as all that is required, and all cases are not to be treated alike.—THE EDITORS.

THE COMMANDING importance and the appalling prevalence of syphilis can be best appreciated through a statistical consideration, as recorded through certain registration areas. In 1915, the number of deaths from syphilis in the United States was 5819. And yet we must, from every day experience, conclude that even these figures are far too low, for physicians hesitate to inscribe such a cause of mortality in filling out the death certificate. It would be interesting to know how many persons die annually in the United States from syphilis. Cases that are reported as due to general paresis of the insane, apoplexy, tabes dorsalis, and other medical entities, are too often the sequelæ of syphilitic infection.

It is the opinion of the Hibbs (*Journal of Sociological Medicine**) that practically all deaths reported under "general paralysis" result from syphilis; but he is extremely doubtful whether such cases as congenital debility, icterus and scleroma are at all due to syphilis, although at times they are believed to be by some of the profession. He also emphasizes the fact that, estimating the prevalence of the disease as judged by morbidity statistics, two methods of diagnosis must be distinguished. The first is what may be called the "clinical method," i. e., by means of scars, history and symptomatology; the second method, which is, of course, the more scientific, deals with specimens of blood or spinal fluid and brings into consideration the results of the Wassermann blood test.

But, at best, as just remarked, the prevalence of disease is very much greater than was ever presented in any statistical table. How, then, can the investigator approach nearer to the truth in forming a correct estimate of the inroads of this grave malady upon the social fabric?

Statistics

This is best accomplished by studying the statistics of certain representative groups. These include the reports of examination by medical men of employes, applicants for licenses, army recruits, etc. Also by examining the records of hospitals and observing the proportion of syphilis found among patients treated in dispensaries, as well as those admitted to the wards. Thus, an estimate made by the United States Marine Hospital showed: all cases, 53,344; of these 11,414 were venereal, comprising 6974 cases of gonorrhea and 4440 of syphilis.

With the introduction of the Wassermann reaction the study of syphilis rested upon a firmer scientific foundation; for it has been found that two and a half times as many cases of the disease are found in comparison with diagnosis by the older clinical method. Has, then, the older method any uses? To this we emphatically answer "yes." The data of the bedside must and will always appeal as the logical and correct method, for when our data are computed by this method, we need but multiply the result by two and a half to find the approximate number of syphilitic cases by the most modern method at man's command.

*An excellent resumé of Hibb's elaborate and painstaking study appears in The Urologic and Cutaneous Review, January, 1919.

Treatment

In the treatment of syphilis the old saying aptly applies, that medicine is an art as well as a science. Laboratory findings must never, and cannot, usurp the results of clinical findings. Injections of this or that medicament are not to be regarded as *all* that is required, and all cases are not to be treated alike. *Per contra,* syphilis is not a medical entity with an undeviating symptom-complex; but may exhibit certain morbid tendencies, inherited or acquired, in association with well-defined constitutional taints, be this alcoholism, tuberculosis, plumbism, the gouty or rheumatic diathesis, etc., that may modify the disease and demand modified or additional treatment. *Syphilitic treatment is individual and never routine.*

Because of the limitations of space and irrelevancy, I will not detail treatment of syphilis as concerns medicaments employed, technic of application, or the physiological effects produced; but, rather, I would emphasize the fact that at the present time the principal drugs at our disposal, in the treatment of syphilis, are mercury, salvarsan and its allied products, and the iodide of potassium.

A serious obstacle to the employment of mercury is the great length of time necessary to effect a cure. The patient rebels against this lengthy period and often disappears before the curative effect has been established.

In the early history of medicine mercury was classed as a cure for syphilis, and down through the ages this powerful drug has sustained its reputation as a cure, which in the darkened period of the world's history was widely employed by means of "inhalations" and "rubbings."

Mercurials

Beside the usual methods by mercurial treatment by ingestion, inunction, fumigation and introduction through the rectum, Scarzenio, in 1864, introduced to the notice of the profession the subcutaneous and intramuscular soluble injections, given daily or on alternate days, or by insoluble injections given weekly. The injection of insoluble preparations is made intramuscularly, although Lang, who introduced gray oil injections, made them into the subcutaneous tissue. Soluble preparations are adapted for subcutaneous or intramuscular use. The advantages by this method are, exactness of dosage, control by the specialist himself, and secrecy. The disadvantages are, pain, the formation of nodosities at the point of injection and very rarely the occurrence of pulmonary embolism.

According to Schamberg and Kolmer, the toxic effect of mercury is due to the amount of metallic mercury present in the mercurial salt and is variously manifested as a stomatitis, a gastro-enteritis, as cutaneous eruptions, or in general disorders of nutrition.

Arsenicals

The arsenical treatment of syphilis was commended to the notice of the profession by Paracelsus in 1529. Fowler's solution came into vogue in 1756, and was supplanted by the administration of Donovan's solution in 1788. In 1863 Béchamp, a French chemist, discovered atoxyl, from which was derived a whole series of organic preparations of arsenic. Atoxyl was the first of these substances to be synthesized and applied to the treatment of protozoön diseases. When the microörganism of syphilis was isolated and was regarded as a protozoön, atoxyl was energetically administered, but was soon abandoned because of the resultant optic atrophy which was prone to assert itself.

Then followed the memorable labors of Ehrlich and other German collaborators. Upon the assumption that drugs act upon an organism when they enter into chemical combination with its cells, Ehrlich developed a theory as affecting *parasites* in infective diseases, namely, the trypanosomes and the spirochaetes, and asserted that the protoplasm of the parasite exhibits certain *receptive* cellular elements or "chemoceptors," showing a marked affinity for certain drugs and combining with them to produce death of the parasite, and he declared these effects to be *parasitotropic,* as distinguished from *organotropic* action, wherein the *cells of the host* were affected, producing a *toxic* action.

Salvarsan

As previously stated, the discovery of atoxyl (the name a misnomer, since the term signifies "free from" or "against" poison) marked an epoch in medical science, for it and its associated substances were widely tried in the field of medicine; but the toxicity of the drug (which became to be more familiarly designated sodium arsanilate) forbade its administration, and the reputation that the new medicament had so suddenly acquired was soon lost in the disastrous results reported. Early in the present century, Ehrlich, acting upon the theory above noted, succeeded in obtaining a chemical substance that exerted a parasitotropic action, and after experimenting for the six hundred and sixth time he announced the discovery of dioxy-diamido—arseno-benzol, and in 1911 this chemical was patented under the name of Salvarsan.*

The first trials of the drug by Alt offered little

*With the announcement of this discovery, the following chemically equivalent compounds of new arsenical preparations were soon placed upon the market: The French introduced Arsenobenzol-Billon. England offered Kharsivan and Arsenobillon. Diarsenol appeared in Canada. Arsphenamine in the United States. Other closely allied products are Neosalvarsan (a modification of Salvarsan) and similarly, Neokharsivan, Novarsenobenzol, Novarsenobillon, Neodiarsenol and Neoarsphenamine. Among widely employed French preparations are: Galyl, Hectine and Sulpharsenol. Luargol contains, in addition to arsenic, antimony and silver. Quite recently the Germans introduced Silver Salvarsan. Among a large number of syphilographers, this last substance, it is asserted, is more active than neosalvarsan and, while perhaps less active than salvarsan, it is surely less toxic.

encouragement in a large series of cases, although in certain of these cases the Wassermann reaction became negative, and a safe and correct dosage was determined, *i. e.*, 0.3 gramme. Shortly thereafter, Wechselmann employed salvarsan extensively at the Rudolf Virchow Hospital in Berlin, and published the results of treatment in 1400 patients comprising all forms and stages of syphilis, a large number of which had no treatment with mercury.

There are certain untoward effects or reactions that may follow these injections, but the general opinion in the profession seems to be, that seldom as they occur they are even less common with neosalvarsan than with salvarsan. They include flushing of the face, headache, dilatation of the pupils, dyspnea, rapid pulse and, at times, cyanosis and some edema of the face. One hour or longer after injection, such symptoms as high temperature, rigors, vomiting and urticaria have been noted. French writers lay stress on a condition, not common in this country, which is characterized, days after injection, by a symptomatology quite analogous to hemorrhagic encephalitis, and which, as pointed out by Ehrlich, would seem to be the expression of the toxicity of the oxidation products of salvarsan. Other reactions may manifest themselves in suppression of the urine, erythema and jaundice.

With these possible complications in mind, the writer cannot help but arrive at the conclusion that while they may occur in the very best of hands, he, nevertheless, inclines to the belief that many of these ill-effects are due to faults in technic, imperfect asepsis and want of precaution on the part of both operator and patient, for with a large experience both in civil and military practice, the writer has found that skill and understanding on the part of the physician and precaution on the part of the patient are the best possible safeguards against many of these so-called reactions.

Careful Technic

In brief, the operator needs be most mindful of his technic, his asepsis, of the *purity* and the *freshness* of the water used in making up the solutions, and of the *rate* of *flow* of the injecting fluid. There are a number of other influencing factors, but we emphasize that at times, there are differences, however slight, in different samples of the same preparation; as salvarsan and its modifications, as well as closely allied products, are not *stable chemical compounds,* and certain toxic properties are alleged to have arisen in the course of manufacture.

Again, many persons have an idiosyncrasy to arsenic and to compounds containing it; and, lastly, the great mass of endotoxins that are liberated with the destruction of many spirochaetes may engender these reactions. The latter theory was first announced by Ehrlich.

As late as 1913 the *modus operandi* of drugs of this class was more or less in an experimental stage and the causation of reactions not well understood. In 1920, a committee of German specialists reported that in 225,780 injections of old salvarsan, sodium salvarsan and neosalvarsan, they found only twelve deaths attributable to the drug, or one death in 18,815 cases. They also found that the dose played an important part in the mortality, especially with neosalvarsan; the mortality with this drug was only one in 162,800, with doses not exceeding 0.6 gramme, but if this was exceeded it rose to 1 in 3,000. The only absolute contra-indications to the employment of the drug are in grave visceral disease, hemophilia, and it is asserted in Addison's disease. Albuminuria is not a contra-indication, as was formerly taught.

The Wassermann Test

The effect of salvarsan upon the Wassermann reaction appears to be neither constant nor permanent. Indeed, it seems to be the result of common experience that drugs of this class are less capable of transforming a positive into a negative reaction than when combined with energetic mercurial treatment, such as inunction. It would be impossible in our brief space to attempt to give all the effects of treatment upon the Wassermann reaction, but it can be incontrovertibly stated that the Wassermann test by itself is no criterion of a cure of syphilis, but is only of value when compared with the results of clinical experience.

Hunt* points out that a latent syphilis should always be thought of as a possibility, especially when myocardial involvement is associated with nervous lesions due to this cause, with high arterial tension or definite thickening of the arteries. He maintains that a negative Wassermann is no proof that clinical observations are faulty. He advances the thoughts that negative Wassermann reactions are not infrequently evidenced in late syphilis, and that an error in technic may have been committed in making the test. Hunt also insists that, although the cerebro-spinal fluid may give a negative reaction, the thought of latent syphilis should never be abandoned until the collodial gold test or the lutein test has been resorted to, and, if necessary, the administration of a *provocative* test of salvarsan, for such a test will make the blood positive when before it was negative.

Tabetic Cases

Intraspinous therapy in urology and syphilis is still in the stage of experimentation and the results attained offer a wide field for discussion and speculation. Howard, quoting Swift,** emphasizes fact that the relatively impervious state of the arachnoid and the pia may at times explain why in some instances the therapeutic agent does not reach the cerebro-spinal fluid by way of the blood stream and

*New York Medical Record, March 29, 1919.
**Northwest Medicine, February, 1919.

why effect is so often perceived by placing the agent directly into the cerebro-spinal fluid. When syphilization of the meninges occurs, then a perivasculitis occurs, and one is prone to find that irritation of the sensory nerve roots causes pain and parasthesia, and depending upon the nerves involved may simulate prostatitis, cystitis, renal colic, etc. It is, therefore, of paramount importance to determine the presence or absence of tabes, and he frequently finds this to be the cause of the urinary disturbance complained of. In the same paper is a quotation from Coulk, showing that a syphilitic perivasculitis is responsible for urinary disorders when he says that in an analysis of 117 cases "almost 50 per cent. of the patients suffering from diseases of the central nervous system may have as their initial symptom a disturbance of the bladder function, such as frequency, dribbling and the like."

Intraspinous therapy for syphilis of the cerebro-spinal system is the replacement of a certain amount of fluid by an equal amount of a suitable menstruum containing the specific drug. The most suitable menstruum is the patient's own blood serum, and Swift employs arsenobenzol and mercury. Both can be added directly or indirectly, or both ways at the same time; indirectly in the case of arsenobenzol, by it being recovered in the serum of a patient previously injected intravenously; and in the case of mercury in the serum, by it being administered by inunction. However, the indirect administration of mercury into the cerebro-spinal fluid has been practically abandoned because of the infinitesimal amounts secured; but the indirect administration of arsenobenzol into the cerebro-spinal fluid is very popular and effective and is known as the Swift-Ellis method. The direct method of administering arsenobenzol, he asserts, with serum as a vehicle, is not so popular as that of mercury in the form of bichloride.

In further observations on intraspinal treatment, Thomas states:* "It is not claimed that such therapy, either intravenously or intraspinally, can restore degenerated spinal cords or rescue victims from impending institutional care. And although patients, even tabetics, respond to general or intravenous treatment, the accessory employment of intraspinal treatment accelerates the restoration of the spinal fluid to normal, arrests degeneration and insures greater likelihood of permanent therapeutic results." He also underscores the circumstance that intraspinous treatment should only supplement the intravenous method when actually and positively necessary and never as a routine or as a mere addition for complete treatment. Cases of endarteritis with vascular or circulatory disturbances, and those with exudative gummatous meningitis and certain cases of tabes require the intravenous administration only.

*Pennsylvania Medical Journal, March, 1919.

No hope is to be held out to those suffering with tract or cortical degeneration. Mercury and the iodids are indispensable adjuncts and should never be discarded in the treatment of cerebro-spinal syphilis.

Cure?

Regarding the criteria as to cure in syphilis, this opens up a lot of bitter controversy. One statement offers no room for argument, and it is this: that injection treatment with the newer drugs cannot be accurately gauged, as compared with the ultimate results of mercurial treatment. LeComte forcibly illustrates this point, in that sufficient time has not elapsed to learn of the true value of salvarsan and its allied products. Under the older method probably fifteen or more years would elapse before paresis or other late manifestation developed, the intervening years having been spent in apparent good health. If, he insists, in 1925 or 1930, it can be shown that the late lesions have developed considerably later than under mercurial medication, giving the patient a longer period of healthy life, or that, if they do occur, they are less severe and more amenable to treatment, we may consider the drug an advance; *while if none of these are proved, it must be considered only as an agent for the rapid control of symptoms.* He furthermore avers that mercury has not been superseded by the more recent drugs, and should be used in every case, both early and late, and after the more powerful spirochæticide has controlled the acute features of the infection.

Although the writer clings to the belief that in this disease, as in so many other instances in modern medicine, the best possible results are to be attained by retaining all that is good in the old and welcoming the signal advances in the great march of progress, he feels it incumbent to mention the opinion of many Canadian specialists*, in this field whose opinions are so well represented by the following telling sentences: "Today the former treatment has given way to intravenous injections of one of the arsenical compounds, supplemented by the former treatment, or at least by hypodermic injections of some mercurial compound. Can the results achieved by this form of treatment be termed successful? Are we any better off than with the old treatment? And which is the remedy, the arsenical compound or the mercury?" And again: "And considering the class of cases that we dealt with at our clinic (Toronto General Hospital), the results are not at all discouraging." This latter statement is of extremely doubtful meaning and value.

Dual Infection

It is impossible in the succinct space allotted to a medical contribution even to hint at many important and practical thoughts that present themselves to the clinician or inquiring physician. One thought,

*Canadian Med. Ass'n Jour., July, 1919.

however, seems most important; so that in conclusion we refer, although all too briefly, to the occurrence of tuberculosis concurrently with syphilis, and in passing say a word as to treatment.

Previous to the year 1900, it was customary to treat patients with the dual infection by means of mercury, and as a result of treatment many of these cases progressed most favorably. As late as 1908, Wright reported a series of uncomplicated cases of tuberculosis treated with succinimide of mercury injections, all of whom showed improvement. As a control test he treated forty-one additional patients, all tuberculous, without these injections, but under the same hygienic regime. The condition of the forty-one remained stationary. With still further study he observed that this class of patients steadily improved, and with this therapy, his death-rate fell from 11.29 to 4.76 per cent., following the energetic employment of the drug. But the use of mercury in syphilitic patients with tuberculosis soon fell into ill-repute. It had been found that the patients were *apparently*, not actually, improved; for improvement was fleeting, and bodily deterioration was just about in proportion to the amount of mercury received. The slogan adopted was: *It is hygiene rather than mercury that improves the patient.*

Elliott* is sure that the profession realizes the danger of this procedure and that clinicians hailed the advent of salvarsan with great enthusiasm, and many optimistic opinions have been recorded from its use. He reports a series of cases from which he concludes that one can justly assume that mercury should be used with great caution in tuberculous patients, that the injurious effects are not immediate, but appear three to six months after administration, *that salvarsan or its modifications or its allied drugs should be the choice in such cases, to be given in small dose at wide intervals, and the case to be most carefully watched;* for larger doses seem to influence perniciously the focal tubercular areas, and seriously aggravate, instead of ameliorate these latent lesions.

Diagnostic Difficulties and Treatment of Empyema of the Antrum of Highmore

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Justly Entitled to Wide Attention

"The pain incident to a diseased antrum is often referred to the eye or the temporal region, is attributed to neuralgia or eye strain," or teeth, or even abdominal or pelvic morbidities. Considering the diagnostic difficulties and the importance of the subject, the paper of Dr. Atkinson should receive the wide attention it is justly entitled to.—Editors.

THE ANTRUM OF HIGHMORE is perhaps more frequently affected by inflammatory and suppurative processes than are any of the other accessory sinuses, though a diagnosis of existing disease within its cavity is less easily made than it is in similar conditions of the other sinuses of the nose. The reason for this may be that the pain incident to a diseased antrum is often referred to the eye or the temporal region of the head, is attributed to neuralgia or eye strain, or is thought to be suggestive of reflex conditions resulting from disordered stomachs, misplaced uteri or other abnormalities of abdominal or pelvic organs. The pain, too, is often referred to the teeth, the antrum being suspected only after all the dental defects are corrected with no cessation of the symptoms.

Anatomy and Pathology

The location of this sinus, and its imperfect drainage, make it particularly liable to involvement. The ostium maxillaire or normal opening, its only communication with the outside world, lies high above its floor, sometimes even as high as the floor of the orbit. With the position of the normal opening so unadapted to adequate drainage, except where certain positions of the head are assumed, it is not strange that secretions are easily pent up and become infected with resulting sinusitis. Occlusion of this opening occurs from various causes. Hypertrophic rhinitis, with swelling of the middle or inferior turbinals, may obstruct the normal opening. Polipi springing from the other sinuses may wedge themselves between the turbinals so that drainage of the antrum is entirely cut off. An acute coryza, with incident swelling of the mucous membrane, may close the opening, or crusts may form between the turbinals, their presence acting as a dam, entirely shutting off the cavity. Deviated septi are often instrumental in producing a maxillary sinusitis, and spurs of the septum, encroaching upon the normal opening, are a very prolific cause in producing a like result.

The maxillary sinus is sometimes infected by an ulcerative process at the roots of the bicuspid or

*American Journal of Syphilis, April, 1919.

first molar teeth which often jut into the cavity, being covered only by the mucous membrane lining it. Extraction of these teeth sometimes open up avenues of infection from the mouth. Errors in nasal and dental surgery not infrequently leave an infection of the sinus. Packing the nose after nasal operations, or as a means of controlling hemorrhage, render liable to infection not only the antrum of Highmore, but the other sinuses as well. Some time ago I removed from an infected antrum a dental bur which had been lost in the sinus during the excavation of a first molar tooth at some previous time.

Symptomatology

The symptoms of maxillary sinusitis are, first, pain. This may be periodical or constant, but is usually worse during the night or early morning hours. As has already been noted, the pain may be in the gums, teeth, walls of the antrum, temples, eye, or it may be far removed from the point of infection, as, for instance, the occiput, a not unusual location. The pain is nearly always increased by stooping. This position also causes more or less vertigo. Because of the general distribution of the pain, and because disease of the other sinuses may occasion pain in the same regions, no particular stress can be put upon this feature of the disease as a factor in determining the nature of the condition. The tenderness produced by pressure is of some service to us in diagnosis. There is usually soreness to the touch in the gums over the cheek bone and the lower floor of the orbit. The skin over the sinus is sometimes drawn taut and may be glistening and reddened. Where a pronounced empyema of the antrum exists the thin walls may bulge, causing a crowding upward into the orbit and a consequent protrusion of the eyeball. A bulging of the inner wall of the antrum may occur which, though seldom seen, as surely indicates antral empyema as does a protrusion of the posterior wall of the auditory canal mean pent up pus or cholesteatoma in the mastoid. The teeth are tender and more or less discomfort is experienced during the act of chewing. I operated a case at one time who had a pronounced empyema of the sinus, tne principal symptom of which, besides pain in the temporal region, was a soreness of the gums and an inability to masticate.

The temperature is usually elevated, though it seldom runs over 101 or 102. Sometimes there is no rise whatever in the temperature. If the drainage is not entirely cut off there will be seen pus in the middle meatus between the superior and inferior turbinals. This oozes constantly when the patient is erect or lies on the side opposite to the one affected. When lying on the back or on the affected side no discharge will be seen. This accounts for the freeness of the discharge in the mornings, the patient, as a matter of course, maintaining during a part of the night, positions of the head which hold the normal opening above the level of the pus. While the patient is in the erect position the pus flows over the top of the inferior turbinal. If it is wiped away with cotton on a probe, it quickly reappears. This symptom should always be looked for and when found, providing the pus oozes up from under the middle turbinal, is pathognomonic of empyema of the antrum.

Diagnostic Aids

Transillumination is a valuable aid in diagnosis. When performed in an absolutely dark room with a suitable electric bulb placed as high up and as far back in the mouth as possible, an empyema of the sinus may be outlined by the darkened area over the fluid which is in pronounced contrast to the same surface of the opposite side. A high leucocyte count is usually to be had. The X-ray is another valuable aid in diagnosis. A skiagraph made for me in a case of suspected maxillary sinusitis showed a heavy shadow over the right antrum and verified a diagnosis based upon a very incomplete and obscure chain of symptoms. An operation was done and the antrum was found to contain fibrous polypi, which were removed, followed by prompt recovery. I am doubtful if I should have operated this case had it not been for the verification of my diagnosis by the X-ray picture. It is well to remember, however, that the X-ray is not a diagnostic certainty in every case.

Treatment

The treatment is mechanical, and may be divided into two classes, palliative and radical. The palliative treatment consists of daily douching the antrum through its normal opening. This, though not often fruitful of good results, may be resorted to before a radical operation is attempted. The old method of removing a first or second molar tooth and irrigating the cavity through the opening left by it is now condemned because of the uncertain results to say nothing of the impropriety of destroying a good tooth.

The Intra-Nasal Operation

The intra-nasal operation gives very good results in cases of moderate severity where there is no evidence of bony necrosis. This consists of opening the nasal plate of the antrum and inserting a drain through which the cavity is to be washed daily. The front end of the inferior turbinal is to be removed preparatory to opening the antrum. With the room offered by this procedure it is an easy matter to curette through the antral wall and enlarge the opening by means of the *Rongeur* forceps. This operation may be accomplished under cocaine anæsthesia in all but the most sensitive patients.

The Modified Caldwell-Luc Operation

In severe cases of necrosis a modified *Caldwell-Luc* operation may be chosen. Under general anæsthesia the lip should be retracted and an incision one and one-half inches long should be made over the roots of the molar teeth extending through the periosteum

down to the bone. The periosteum is now elevated and with a mastoid curette or a chisel an opening is made through the antral wall and is enlarged sufficiently to admit the index finger. The cavity is now explored. Polipi, if present, should be removed, and their pedicles thoroughly curetted away. Areas of necrotic tissue should be sought for, and, when found, completely obliterated. An opening is now made through the inner wall into the nose, the inferior turbinal having been previously removed, and an iodoform packing introduced, its distal end extending into the nasal cavity. The external wound is now closed, subsequent dressings being applied through the nasal opening. The sinus should be redressed daily for a week or so, after which the dressing may be discontinued, but daily irrigation with antiseptic solutions should be carried out until all evidence of suppuration ceases.

The Proper Function of Radium

Dangerous Operative Risks Often Made Safe

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The Talk of the Hour

Radium is the talk of the hour. The hope of multitudes of sufferers, pierced by the deadly tentacles of the cancerous octopus, is focused upon this agency. Will these expectations be realized? Will the problem of the day be solved? What are really the possibilities, probabilities and potentialities of this therapeutic star? Dr. Blesh is neither dreamer nor condemner. He has studied radium in the practical domains of the hospital clinic and surgical laboratory and narrates his findings in this excellent paper.—Editors.

THIS PAPER will not deal with the history of radium, nor with the rapidly growing literature of the subject, but will be an exposition of our work with it, in the hands of the Oklahoma City Clinic, at Wesley Hospital.

Out of our work, here, has come certain positive findings upon which we believe it profitable to dwell. One of the greatest of American humorists once remarked, that "it is better to not know so much, than to know so much that is not true." One of the greatest faults of our profession has been to rush into print with half-baked theories which, when uttered with due pompousness by some "big gun," was followed literally by too many of the "rank and file" to the discredit of the profession. What we say here in this short paper has been learned by the actual use of the radium in concrete cases.

To the surgeon the use of radium may be indicated broadly in two classes of cases:

1. Malignant conditions.
2. Non-malignant conditions.

Of the former, we have used it as the primary treatment only in inoperable cases. Where operation is feasible we have used it consistently as a preliminary and post-operative measure.

In non-malignant conditions it has also been used sometimes as a preliminary treatment, as, for example, in myoma uteri, with prolonged and exhausting metorrhagia. Here it is used to change a bad surgical risk into a good one in a disease essentially surgical.

Malignant Conditions: In the present state of our knowledge of radium, in the treatment of malignant neoplasms, it must be rated as an adjuvant to radical surgery on the one hand, or palliative surgery on the other. Unquestionably the radium rays will penetrate further than the scalpel can go in even the most skillful hands. Also since the fixing infiltration, which always accompanies and is a part of the process of malignancy, adds to the dangers and difficulties of radical surgical removal, irradiation will often loosen to a degree this fixation and render inoperable conditions operable. These anchoring infiltrations are not always composed only of malignant cells. Often they are inflammatory and due to secondary infections. In fact, there is little difference in the process of infiltration, whether malignant or inflammatory. Indeed the routes and process even of metastasis are the same in both cases.

We have observed in many cases of seemingly advanced malignancy which were inoperable, because of extensive fixation, become relatively mobile after one or two irradiations.

Advanced Cases of Malignancy

Advanced cases of malignancy with extensive destruction of tissue can rarely be dealt with satisfactorily surgically. Primary surgical mortality is appalling and ultimate results as to cure are practically nil. These have been the hopeless cases which haunt first one and then another doctor's office. It makes little difference as to the location of the neoplasm, whether in breast, uterus or stomach, or on the face. These advanced inoperable cases, together with those which by location are surgically inaccessible, and those the removal of which, by operation,

would produce such hideous deformity that the surgeon would be averse to advising surgery; and certain superficial epitheliomata of the skin, especially of the face, constitute the class for which we advise irradiation as the primary and sole treatment.

In the treatment with radium we are dealing with the same uncertainties as to when metastases have begun or how extensive and far distant they may have become. Upon this fact hinges ultimate result. There can be no doubt of the fact that radium exerts a selective destructive action on malignant cells. The selective action is probably because the malignant cells, being embryonic in character, are less resistant. At any rate it is a well-known fact that the cells will succumb to a smaller dose of radium than will the more highly differentiated cells of the normal tissue. But it must not be overlooked that they, too, are deleteriously affected and may also be destroyed.

Simple Skin Growths

Simple skin growths can be removed with little, if any, scarring. If distant metastases have not occurred they are permanently cured. But who can tell when metastasis has occurred? Hence time alone can tell the story of permanent cure. Many have been reported cured after several years have elapsed.

In order that a reported cure may be depended upon, a microscopic diagnosis must have been made by a competent pathologist, for it is especially true in malignancy that "things are not always what they seem." In our clinic we no longer doubt that in this class of cases irradiation is superior to the scalpel in that it penetrates much deeper and wider than is possible with the knife.

Advanced Carcinoma of Cervix—Resultant Fistulae

In advanced carcinoma cervicis uteri the problem presents some special features. Frequently there will be invasion of cancer cells into the recto and vesico vaginal septi. The destruction of these by any method whatsoever, whether with the *Percy* so-called cold cautery or the knife or radium, will be followed by fistulæ. Indeed fistulæ will often occur, and for the same reasons, in untreated cases. Such results are in no wise to be charged to the treatment in this class. Nevertheless a leaking bladder and spilling rectum are very distressing sequellæ. To escape unjust blame, warning should be given before instituting treatment of any kind. The death of a clump of cells in either of these septi is almost sure to result in a fistula and it is equally as certain that a proper dosage of radium will kill the cells.

The thing that has most surprised us in this class of advanced cases, otherwise hopeless even as to palliation, has been the remarkable improvement manifest in all of them and the occasional seeming cure. We hesitate to say cure for the reason that, as stated above, ample time (at least five years) must elapse without recurrence before the word "cure" can be permitted. But right here again is the crux of the whole question. Some cancers far advanced, locally, have not metastasized to distant points, but for some unknown reason have been content with invasion by infiltration, while others, which locally seem almost innocuous, have given rise to distant metastases which far overshadow the original growth. Indeed it has often happened that such a metastatic neoplasm has been surgically attacked by the best of surgeons who was unaware of this fact, until a carefully made pathologic study has given him the hint.

Radium as an Adjuvant to Surgery

It is here that a large field of usefulness is opened to irradiation. Metastases far beyond the reach of the most radical operation are influenced by the rays. Especially is this true in carcinoma cervicis uteri. It will continue to be the exception that these cases will present themselves surgically early. In the histories of our cases, numbering over 400, late presentation is the most striking feature. Yet a large percentage consulted us soon after the first symptoms patent to them appeared. It seems they are doomed to destruction on the Scylla of Fear, inspired by the constant frequenting of the physician's office for examinations, the direct result of the widespread cancer propaganda on the one hand, or the horrible Charybdis of a cancer death on the other.

Our histories show another striking fact: Most of these patients who are living today consulted us for something else and in making the thorough routine examination, which is our custom, early cancer especially of the cervix was discovered, the patient having had no symptom referable to the uterus.

It is now our custom to irradiate these cases the day before operation. Since most of the patients are over or near the menapause, and since in cancer the entire internal genitalia are surgically sacrificed anyway, we do not hesitate to give them 1200 mg.h. This, in turn, is followed after operation, for many months, at regular intervals. In one or two instances my associate, Dr. M. E. Stout, has left the radium in the pelvis, attached to a string, which is brought through the unclosed vagina, to facilitate removal.

In malignancy anywhere, we follow surgery by systematic irradiation whenever possible. In malignancy of the face and neck we are fond of using the cautery knife, as described recently by *Scott*, of *Temple, Texas*, with subsequent irradiation.

Non-malignant Conditions

Menorrhagia and metorrhagia, without determinable cause, have yielded over ninety per cent. of the cases. As this often occurs in young women during the child-bearing period, great care must be exercised in dosage, so as to avoid causing premature menapause. Our initial dose here does not exceed 300 mg.h. This can be repeated, if necessary. Formerly many of these cases had to be hysterectomized.

Syphilis, as a cause of metorrhagia and menorrhagia, is well known. The cause of the hemorrhage being an endarteritis, usually it will not yield to

antisyphilitic treatment any more than an aneurysm from the same cause will yield. But it will yield to radium.

Fibromi Uteri with hemorrhage, in these cases with exsanguination and an anemia so pronounced as to render operation most dangerous, irradiation will stop the blood loss and convert a dangerous into a safe risk.

Leucorrhoea, many times the betenoir of the doctor, will yield to radium, according to Curtis, in eighty per cent. of the cases. Of course, any surgical cause such as endocervicitis, the result of lacerations, if found, should be corrected by appropriate surgery. Our results agree with those of Curtis.

In Hodgkin's Disease we have had most brilliant, though temporary results, no cases being permanently benefited.

Conclusion and Summary

In conclusion, we do not feel that radium is to be offered the public as a certain cure-all for malignant conditions. We *do* feel that we should urge it as a valuable aid to any and every other legitimate means we possess to fight this, the most hopeless of life-destroyers. Without doubt it may often, in widespread dissemination, be supplemented with X-ray "showering" to advantage.

1. In our hands radium has proven a valuable aid to surgery in malignancy. For this purpose it is best used both before and after operation.
2. Radium has been a valuable measure in our hands in the palliation of inoperable malignant conditions. In inoperable carcinoma of the uterus we have been able to prevent exsanguinating losses of blood. It often allays the pain as well.
3. In superficial skin epitheliomata radium easily outranks any and all other treatments.
4. In widespread malignant conditions it should be supplemented with X-ray showering.
5. Fibromata of the uterus, which are practically inoperable because of exsanguination, can be rendered operable by first controlling the bleeding with radium.
6. Intractable leucorrhœas, without surgical cause, are curable by the use of radium in a large percentage of the cases.
7. Caution must be exercised in its use for the reason that an overdose is capable of precipitating premature menapause in the young woman. It can also damage normal tissue and cause severe intractable burns. It is not to be used in inflammatory conditions. It is capable also of producing a most stubborn cystitis and proctitis, hence these viscera are to be held from contact by properly placed packing.

The annoying, useless, nagging, "cutting" pains of the primipara, and for that matter of the multipara, may often be alleviated or converted into labor contractions by means of a warm enema of one quart of hot water with an ounce of glycerin.

Reasons for Anesthetics in Obstetrics

A "Little" Question of "Great" Importance

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Factors Demanding Consideration

The anesthetic in obstetrics is a "little" question of "great" importance. The safety of the mother, the life of the baby, the duration of labor, the degree of suffering, the anxiety of the family and the reputation of the physician are all factors demanding consideration. The discussion and recapitulation of these points by Dr. Fursey in this practical, clear, short paper are certainly well worth reviewing.—Editors.

THE PRINCIPAL reason for using any drug during labor is to relieve pain. There are still some men who believe that to relieve pain during the agony of labor is unnecessary, that nature intended that a woman should suffer, therefore nothing is used.

Pain is a great producer of shock, and for that reason alone the use of an anesthetic should be urged.

When an anesthetic is used, if it acts promptly enough, the attendant is able to control the uterine contractions and thus control the speed with which the presenting part comes over the perineum and in that way save the perineum that in many cases would otherwise be lacerated.

On occasions when instrumentation has to be done, or in fact any internal uterine manipulation, the demand for an anesthetic becomes almost imperative.

The relief of pain, saving the perineum, preventing shock as much as possible and the various forms of instrumentation are all, in the opinion of the writer, valid reasons for the use of an anesthetic during labor.

Requirements of an Anesthetic

To be useful, the anesthetic must be safe for the mother and baby. It must act well. It must act quickly. It must not shorten labor and if it be cheap and easily accessible, so much the better.

Ether

One of the commonest in use is ether. It is comparatively safe for the mother, but after a deep ether anesthesia all breathe easier as soon as the baby cries. While I believe that infant mortality from ether alone is not very common, still it undoubtedly does happen. It does not, however, act quickly enough so that it can relieve each pain and have the

patient normal between pains. If enough is given to relieve the discomfort to any worth-while degree, the pains are quite markedly decreased and the course of the labor lengthened to a corresponding degree. Once in awhile it is well to lengthen labor, but usually not. However, ether is cheap and almost always at hand.

Chloroform

Chloroform is used in much the same way as ether. It acts quicker than the latter, lengthens labor slightly more and is not quite as safe as ether, and, because of this, ought to be given, if at all, by a trained anesthetist, thus making it not quite so accessible as ether.

"Twilight Sleep"

The so-called "Twilight Sleep" method of anesthesia was used quite extensively some years ago and even today is used to some extent. Its use has been highly lauded by those mothers whose babies suffered no accident through its use. But by far the big majority of obstetricians today believe that to get even approximately safe results requires too much time on the part of the physician, and even then the death rate among babies is greater than with any other method of anesthesia, therefore it is hard to justify its use.

Nitrous Oxide and Oxygen

Nitrous oxide and oxygen combination has proven, in the hands of the writer, to be the anesthetic most nearly ideal of those at our command. It is pleasant to take. It is safe for the mother and, I believe, the babies are safer when it has been used than when not. I have reference, more especially for the baby's sake, to the use of oxygen, a tank of which goes with the apparatus used in administering the combination. It has been my practice in cases in which version has been done, or in difficult forceps deliveries, to use pure oxygen freely for the mother for a few minutes before the baby is born, and in this way, still-born babies are almost unknown.

Four deep inhalations taken quickly, one after the other, will produce a degree of analgesia which in most cases will cause the mother to declare that she felt no pain at all. It does not lengthen labor because there is no fear on the part of the mother and she is thus encouraged to use her abdominal muscles to the best advantage.

Morphine

One-eighth of morphine, given at the onset of labor and repeated when labor is nearing the end of the first stage, will make the labor, up to that time, bearable and then, with the nitrous oxid and oxygen combination, a patient can be taken through labor with very little, if any, distress. She can be put to sleep in one minute. When the baby's head is about to pass over the perineum, so that the head can be delivered with very little contraction on the part of the uterine muscle, therefore lessening the danger of lacerating the perineum and yet, if need be, the mask can be removed and in another minute the patient will strain as hard as before. She will recover much more quickly because of the absence of shock.

The gas is passed out of the system so quickly that there is no demonstrable bad effect on any of the organs. Taken all in all, it is the best combination to use in the majority of deliveries. There is not enough relaxation for a version, but the oxygen should be used freely a short time before the baby is born.

A Result with Acid Fruits In Typhoid

—

A Case Report

A little more than a month ago I was called to see a little patient that seemed to be dying of typhoid fever.

I made a careful examination of the little girl and concurred in the diagnosis, and also in the opinion of the attending physician, that there was little hope that the child would live until night.

I told the friends of the patient to retain the physician in charge of the case, as I did not wish to take charge of a hopeless case. They said the other physician had been dismissed and would not be in again and implored me to do all I could to save the child.

I at once told them to give the patient *no more sweet milk* as food, but instead to give her buttermilk and any kind of acid fruit juice—apple sauce, cranberry juice, lemon juice—but especially plenty of juice of black (Concord) grapes.

I left some tablets of sulpho-carbolates of lime, soda and zinc, to be given every two hours, and gave a mild saline laxative to free the bowels of the decomposing curds of sweet milk. I also instructed the nurse to wash out the bowel with tepid saline solution three times daily.

When I first saw the patient she was delirious and moaning at every breath. On the next day when I called she was still delirious, but the temperature had dropped from 104.5° F. to 102.5° F.

On the third day the child was conscious and the temperature was 101.5° F. The improvement was constant and the child is now convalescing nicely.

I report this case to show what can be done by cutting out *sweet milk* from the diet of typhoid fever patients. I forgot to say, also, that all the water allowed the patient to drink was acidulated with hydrochloric acid. Curds and undigested food particles soon disappeared from stools. I hope this report will save some valuable life.

Saquache, Colo. D. W. Reed, M. D.

One Hundred Neuro-Psychiatric Cases Emphasize the Importance of Prophylaxis and Early Recognition *

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As Instructive as Interesting

The nervous system is a sensitive apparatus, constantly registering impressions of intensities and degrees proportionate or non-proportionate to resultant effects. The average mind is normally stable and tenaciously recuperative. Often, though, physical, pathologic or emotional actions are followed by untoward reactions which badly dissociate psychic equilibrium—and the mental kingdom "goes wrong." From this point of view the "Impressions" of Dr. Young are as interesting as instructive.—Editors.

FOR THIS PAPER an attempt was made to ascertain, as nearly as possible, the percentage of the various types of nervous disorders. Of course, it is difficult to arrive at an absolute mean, and, too, this paper does not, by any means, contain all the disorders grouped under the head of "Nervous." However, they are the more common types. The hundred cases to be cited were taken at random from between two and three hundred patients treated, and represent a mean of the whole.

The results are as follows: Exhaustion neurosis, or what is commonly classed as neurasthenia, those following influenza, 15 per cent; of another etiology, 5 per cent., or 20 per cent. in all; hysteria, 16 per cent.; hyperthyroidism, 11 per cent.; dementia praecox (schizophrenia), 10 per cent; epilepsy, 8 per cent.; psychasthenias, 6 per cent.; cerebro-spinal syphilis, 5 per cent.; manic-depressive psychosis, 4 per cent.; peripheral neuritis, of which the sciatic nerve gave 3 per cent.; brachial, 1 per cent., and eighth cranial nerve, 1 per cent., making 5 per cent. in all; encephalitis, following influenza, 2 per cent.; coccygodynia, 2 per cent.; intermittent claudication, 2 per cent.; constitutional psychopathic inferiority, 1 per cent.; anxiety neurosis, 1 per cent.; Jacksonian epilepsy, 1 per cent.; hemiplegia, 1 per cent.; transverse myelitis, 1 per cent; feeblemindedness, 1 per cent.; facial palsy, 1 per cent; hypopituitarism, 1 per cent.; paranoia, 1 per cent.

There are certain thoughts which rise out of this array of diseases. Of course, the picture is modified, to a certain extent, by the influenza epidemic, during and after which many of these cases came to our attention. And to just that degree the percentages vary from what might be expected at a more nearly normal period.

Exhaustion Neurosis

However, I think, we shall always find the exhaustion neurosis heading the list just as they do here. These are the fatigue types, and in the foregoing cases the larger percentage were consequent upon an attack of influenza. Whether these same individuals might have developed a fatigue syndrome had there been no influenza is debatable, but, most probably, a majority would have done so. For, given an attack of influenza, in order that there may be a subsequent neurosis, the soil must be of a suitable character; namely, the particular nervous system must be inherently below standard and more susceptible to fatigue than normal. And this type of soil is always present, needing only the sewing of the seed of undue strain which, in turn, in this era of strenuousness is also ever present. So, in this instance, most probably under any circumstances, the exhaustion neuroses would predominate.

The Hysterias

The next most numerous of our group are the hysterias and here we also are probably running true to form. In a time when the individual is confronted with more vexatious problems than ever before, and, too, when, to a large extent, these problems have been cast at them with untoward suddenness, there is a tendency to seek escape. This attempt at escape, because of a predominance of this type of character, takes on the form of hysteria in a large number of instances. Unemployment or necessary expenditures out of proportion to incomes make it a temptation to try to obtain means of support either through disabilities acquired accidentally or through seeking charitable aid, which is apt to create morbid hypersuggestibility and hysterical tendencies (traumatic hysteria); the temptation to seek escape from mounting responsibilities, etc., brings on other forms of this disease.

Hyperthyroidism

Third on the list, with 11 per cent., comes hperthyroidism, which again will probably always claim approximately this place. In the influenza epidemics of 1917 and 1918 we saw a long line of broken manhood who escaped death but were left

*Read before the Fulton Co. Med. Soc.

with more or less severe sequelæ. Hyperthyroidism, being consequent upon either intoxication or oft-repeated emotional traumata, naturally increased with the increase of the "flu." Intelligent studies in basal metabolism and various tests, such as the *Goetsch* test, have made our diagnoses more accurate, and consequently an earlier treatment possible. But here as everywhere preventive medicine has a tremendous opportunity, not yet touched, in the prevention of thyroid intoxication.

Peripheral Neuritis

Peripheral neuritis, of which there were 5 per cent. in the series under discussion, was another result of the influenza; also encephalitis, either the acuter form, which presented a picture of the so-called "sleeping sickness," which has aroused so much verbostiy with its long array of polymorphous symptoms and sequelæ; or the more chronic, with symptoms of irritation of a cortical nature. In the 2 per cent. coming to our attention, the latter was the form. In one there were peculiar athetoid movements of the hand, arm, foot, and leg on one side, with a spastic paresis; in the other, irritations affecting the face zone.

Dementia Præcox, Manic-Depression and Paranoia

With the influenza the war stands as an unusual event, and caused much that would not otherwise have happened. So, most probably, dementia præcox with 10 per cent. would not ordinarily stand quite so high in the list. The war with its need for young men, snatching them from ways of peace to face unknown terrors, precipitated many a borderline case over into mental oblivion. And dementia præcox, being primarily the psychosis of youth, was increased in proportion. Many of these individuals might otherwise have gone to their grave, having lived a mentally wobbly but apparently mentally sound life. These same facts stand in the case of manic—depression and paranoia (4 per cent. and 1 per cent., respectively). Here again preventive medicine has yet untried possibilities.

General Epilepsy

Of general epileptics, and under this head we place all cases with the earmarks of epilepsy whatever the etiology, there are 8 per cent. We can no longer call epilepsy a disease, but merely a symptom complex with multiple etiology. Of all our cases, the majority were syphilitic in origin. Of those who would submit to proper treatment, all were benefited, but none, after from three months to a year of treatment, were absolutely free from symptoms. In every case grand mal gave away to petit mal and, at that, at long intervals; but there the improvement stopped although in every case a four plus Wasserman became negative. Too much nervous tissue apparently had been destroyed.

The treatment consisted of from five to ten intraspinal injections of *Byrne's* mercurialised serum, which rendered the choroid plexus hyperpermeable, this hyperpermeability reaching its maximum in six hours. This was followed by an intravenous injection of salvarsan which consequently passed into the spinal fluid, giving the patient the benefit of both mercury and arsenic where he most needed them. This method is probably superior to both the *Swift-Ellis* and *Forduce-Oglevie* methods. In the remaining cases, as is so often sadly true, we had to be content with keeping the attacks as much as possible in abeyance. Of all the agents, that giving the best results and the least trouble is *Luminal.* The percentage of cerebro-spinal syphilis is rather low, 5 per cent. But it would be brought up to 10 per cent. if those cases grouped under epilepsy were to be added, which would be about the correct proportion. The results of the treatment, outlined above, are most gratifying. The trend of thought seems more and more toward treating every case of syphilis as a possible cerebro-spinal subject. Certainly, every case should have a thorough spinal fluid examination, for the nervous system has been invaded as early as the later days of the primary sore. Fewer distressing cases of a nervous type would be seen, were this always done, and, certainly, an ounce of prevention is worth a pound of cure, because once nervous tissue has been destroyed, it can never be regenerated.

Intermittent Claudication

Of the remaining cases only intermittent claudication is of particular interest. This disease has been placed by some in one class with Raynaud's disease, and on the thyroid has been placed the blame. Some cases have arterio-sclerosis; others vascular spasms. It is probably true that arterio-sclerosis is dependent often upon the thyroid, that is, there is some change in metabolism due to thyroid insufficiency which, in turn, causes the laying down of fibrous tissue in the vessel walls. On the other hand, vascular instability comes with perversion of the thyroid function. Cases of this type respond well to thyroid medication.

Conclusion

Of all the lessons gained from this rather inadequate review, the most important points to remember are: First, prophylaxis in exhaustion neuroses by recognition of early types and protection; in hysteria and the psychoses by the recognition of tendencies in youth and proper education; second, thyroid prophylaxis by proper protective measures; third, to recognize epilepsy as a syndrome and search for etiology; and lastly, to view every case of syphilis as a possible cerebro-spinal subject, and where the spinal fluid is positive, institute proper treatment.

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

A Case of Tuberculous Peritonitis

Twenty-first Clinic

THIS LITTLE PATIENT, V. S., number 144/20, age six years, was brought to the Out Door of the Children's Memorial Hospital on March 18, 1920.

The mother brought him, complaining that the boy was ruptured. When she was questioned she stated that she noticed this "rupture" first about one month ago, and on cross-examination she conceded that he had been losing considerable flesh lately, although his appetite was good.

The boy was examined by my associate, Dr. F. P. Yorston, who states in his record that the child was poorly nourished, that the right testicle was normal, while the left testicle was enlarged, but not tender. The epididymis was enlarged and hard. The spermatic cord could be palpated to the external ring. Here there was a small mass about the size of a bean. The abdomen was large and swollen. The abdominal wall was tense, verging on rigidity, indeed, resistant to the touch all over. A distinct mass could be palpated in the right hypochondrium.

The patient was admitted into the hospital. His temperature during the first week was normal, although on one or two occasions there was a slight rise to 99° or 99½°. The temperature taken during the subsequent weeks was very similar to that of the first week, although on several occasions it rose as high as 100° or even slightly higher.

I am bringing this child before you today because you will remember that last week I discussed the subject of hernia with you. The mother of this child has brought him to this hospital complaining that he is ruptured.

I want you to examine his inguinal regions in order to ascertain whether he is ruptured. I want you to tell me whether he is suffering from this condition or whether he is not, and, again, I would like to draw your attention to the fact that Dr. Yorston has made some very definite statements regarding the condition of this boy's abdomen. For this reason I think that you should consider the past and the present condition of the abdomen when you consider the condition of the contents of the inguinal canal.

Will one of you gentlemen report your examination of the inguinal canal and later perhaps another will be good enough to report the result of his examination of the abdomen. Then, gentlemen, we will ask for a diagnosis.

A student: I have made an examination of the inguinal canals in this boy and of the spermatic cords and testicles.

The right canal, cord and testicle seem to be perfectly normal, while the left testicle and spermatic cord are enlarged, especially the latter. This feels hard and solid. It can be felt as a distinct funicular process under the skin in the inguinal canal running up as far as the internal ring. It feels entirely different than did the cord in the little child who suffered from hernia whose history was considered at our last clinic.

A second student: I have examined the patient's abdomen. It is swollen and tumid in character. The muscular wall is very tense. On palpation there seem to be irregular areas of dullness separated by tympanitic areas. The umbilicus seems to be unfolded and on its apex is seen the opening of a sinus from which pus is exuding.

The clinician: You have all had an opportunity of examining this patient. You have heard the history. You have seen the temperature chart. May I ask for a diagnosis?

A student: We have consulted one with another and we feel that this might be a case of tuberculous peritonitis.

The clinician: Yes, this is a typical case of tuberculous peritonitis and as it is necessary that you shall be able to recognize this condition, as it is a fairly common one, we will now discuss the characteristics and treatment of this disease.

(1) General Consideration

Tuberculous peritonitis is seen broadly in two forms—(a) a plastic peritonitis, (b) as an ascites. The plastic form is much more common. Indeed, there are probably ten cases of plastic tuberculous peritonitis to one of the ascitic form.

The frequency of tuberculous peritonitis has been

suggested by Mr. Still, who says that in children under twelve years of age 16.8 per cent. of all cases of fatal tuberculosis were those of the peritoneum and, again, Mr. Still found twelve cases of tuberculous peritonitis in one hundred tuberculous infants.

(2) Etiology

Tuberculous peritonitis sometimes starts from caseous mesenteric glands, but in the majority of cases it probably begins independently of any tabes mesenterica. It may be secondary to a tuberculous lesion elsewhere. In some instances it may begin as a primary infection, although it must be remembered that the peritoneum has a marvelous power of resistance to tubercle bacilli.

(3) Age Incidence

The age incidence corresponds closely with that of tuberculosis in children. According to Mr. Still the greatest number of cases of fatal tuberculosis of the peritoneum occur between the first and second years. This disease in a fatal form becomes decreasingly rarer until the twelfth year.

(4) Symptomatology

In early cases of tuberculous peritonitis of the plastic form, the symptoms are very similar to those seen in tabes mesenterica. If we epitomize the symptoms seen in more advanced cases we would say:

(1) The abdomen is tumid in form.

(2) It is podgy or doughy to the feel.

(3) There is often a transverse band-like tumor lying across the epigastrium which comprises really a thickened caseous mesentery.

(4) There may be an unfolding of the umbilicus.

(5) There may be redness about the umbilicus.

(6) This may be followed by perforation of the skin of this part with extrusion of fluid and caseous material, or even an outpouring of faecies.

On the other hand, tuberculous peritonitis of the ascitic form presents quite different symptoms. Indeed, it is almost impossible to distinguish it from ascites due to other causes. Indeed, if we suspect an ascites to be of a tuberculous nature we must search for such confirmatory evidence as (a) the production of tuberculosis in a guinea pig by the injection of the ascitic fluid removed by an exploratory needle, (b) a tuberculous focus elsewhere, such, for instance, in the lungs or (c) tuberculosis of the epididymis or testicle.

(5) General Consideration of Tuberculous Ascites

(Tuberculous peritonitis, ascitic form.)

Patients suffering from this form of tuberculous peritonitis seem to die but rarely. As a rule, under suitable treatment, the fluid disappears. Unfortunately, however, in certain cases, as the fluid disappears the plastic form as an underlying cause for the ascites is revealed and the prognosis becomes that of the more common variety already described.

It is important in dealing with tuberculous peritonitis to realize that this condition should not be considered as cured unless the patient has been without symptoms for twelve to eighteen months.

(6) Prognosis

The peritoneum has a marvelous power of resistance to tuberculosis. We can infer that the prognosis is best in the later years of childhood. It will be remembered that in certain instances the greatest number of deaths have been reported between one to two years of age and that the death rate decreases yearly until the twelfth year.

Gentlemen, having studied the natural history of tuberculous peritonitis, let us take into consideration the history of the child who has been examined by you. The child is six years old. He was brought to this hospital because of some trouble of the left testicle and epididymus. His weight has been decreasing for some weeks until now the boy is poorly nourished, yet the emaciation from which he suffers is not seen in the abdomen which is enlarged and resistant to the touch with a tenseness which verges on rigidity. Now we know that the abdomen of a patient suffering from tuberculous peritonitis is tumid and doughy to the feel. In our case the abdomen is certainly enlarged and tumid, but it is resistent and not doughy to the feel, but this resistance is simply due to muscular spasm and an increase in the contents of the abdomen. Indeed, if we are dealing with a tuberculous peritonitis we are dealing with a patient who presents the symptoms of a later stage and not the doughy-podgy sensation to the touch seen in earlier cases.

In tuberculous peritonitis we often find a transverse band-like tumor lying across the epigastrium. In this case, while this has never been found, the percussion of the abdomen leads one strongly to surmise that solid masses have formed therein, although this cannot be confirmed by palpation because of the tenseness or rigidity of the abdominal wall.

In the patient before us there was originally an unfolding of the umbilicus with redness about it. It was felt that this was due to a localized abscess. On palpation it was decided to leave this abscess undisturbed until sufficient time had elapsed for the formation of adhesions about it. When this time had elapsed it was decided to drain this abscess, but before this could be done a perforation occurred at the umbilicus accompanied by an escape of faecies and gas. *This,* as you may imagine, caused us some alarm, but our fears were soon relieved by the cessation of the discharge of this character, although a discharge of pus has continued to flow from the sinus through the umbilicus.

A student: Can you tell us what is the probable

cause of this faecal fistula at the umbilicus?

The clinician: In tuberculous peritonitis the bowel may become perforated either by an ulceration within its walls or by an ulceration from without due to adjacent and penetrating tuberculous focus. In our case the bowel evidently became adherent to the peritoneum lining the umbilicus. Then there was a perforation which included the skin covering the umbilicus, which was already under tension. Through this fistula gas and faeces escaped. Later some attempt at repair must have caused a walling off of the intestine, although the tuberculous focus outside and perhaps including the abdominal wall has still continued to break down and cause the outpouring of pus through the perforated umbilicus.

The student: What is the prognosis in patients suffering from such perforation?

The clinician: Such perforation is ordinarily followed by the extrusion of tuberculous fluid and caseous material. In these the prognosis is good. If, on the other hand, there is a perforation of the intestine into the peritoneal cavity or through the umbilicus before adhesions have formed walling off the fistulous opening the prognosis is much more serious. In the patient before you this accident has been of little moment. You will notice that he is as well as he has been for some weeks before this accident and, indeed, his temperature and pulse rate are low and he is lively and seems to be in reasonably good general condition.

I think that the diagnosis of tuberculous peritonitis of the plastic form has been borne out by a study of the symptoms in this case. The original complaint was rupture. This condition was suspected by the mother because of an enlargement of the epididymus and testicle due to a tuberculosis of these parts, and as we have already said, a tuberculosis of these parts may be used as confirmatory evidence in making a diagnosis of tuberculosis of the peritoneum.

(7) Treatment

Tuberculous peritonitis should be treated, as are all forms of tuberculosis, by rest, fresh air and proper diet. In this hospital we believe in recumbency in the fresh air and proper diet. In earlier years it was the custom in the majority of patients to perform a laparotomy. Empirically speaking, this was the thing to do. As I remember this seemed to be a successful form of treatment in the majority of patients treated in this hospital. But, of more recent years, physicians have felt that it has not been proven that the success following this treatment was due to it. They have claimed that these cases were improved by the general treatment which had been carried out—indeed, physicians have stated that good results were simply coincident with surgical treatment and not due to it.

We must all realize that it is impossible for us to produce any form of scientific argument to justify the performance of a laparotomy. This form of treatment was purely empirical. In the particular case which we have studied the patient has been treated by rest, fresh air and suitable diet. He has been treated in one of our tent wards from late spring until the first of November. In spite of this treatment carried out by our medical department he has not improved. At the same time I would consider that it is very doubtful whether he would have improved under surgical treatment, and one hesitates to employ purely empirical measures.

Indeed, it is impossible to say whether the improvement found after operation performed in patients suffering from tuberculous peritonitis is post-hoc or propter-hoc.

In some cases we may use in addition treatment by tuberculin. In other cases treatment by the internal administration of iodine in some form has been of benefit.

A Case of Post-Diphtheritic Paralysis

Twenty-second Clinic

THE LITTLE BOY who is brought before you today is Jimmy P., aged two years and three months, No. 139/20, Children's Memorial Hospital.

His mother brings him to the hospital because he is suffering from general weakness, inability to stand, and more especially because his head hangs forward when he is tired.

We have had a number of children brought to this hospital recently with the complaint that there seems to be some lack of support to the head, or that they support their heads with their hands. What condition first presents itself to your mind when a child is brought with such complaint?

A student: One always thinks of the possibility of cervical Pott's Disease when a child is brought to the hospital with the complaint that he continually endeavors to hold or support his head with his hands.

The clinician: Yes, this is true, but in Pott's Disease the first symptom to come and the last symptom to go is muscular spasm. In cervical Pott's Disease the muscles surrounding the cervical vertebrae are held in spasm. Examine the patient who is before us and note that the cervical muscles are not held in spasm. The patient seems to be suffering from a flaccid paralysis.

What are the most ordinary causes of a lower motor neuron or flaccid paralysis? First, poliomyelitis; second, neuritis, and third, an obstetrical paralysis. Is there any possibility of this being a poliomyelitis? Yes, this is a possibility, but not a

probability. Sometimes, but rarely, other muscles as those of the trunk are affected, but usually in conjunction with those of the lower extremities. For instance, the patient may have a paralysis of the muscles of the back, abdomen or even the muscles of respiration which may accompany a paralysis of the extremities, especially the lower extremities. An unusual site for this affection is a sign of a more or less general infection of the organism of poliomyelitis.

On the other hand, we know that a flaccid paralysis of the cervical muscles is common in a post-diphtheritic neuritis. Indeed, it is almost characteristic of this disease.

Post-Diphtheritic Paralysis

Would it not be well, then, for us to consider the possibility of this child, whom we are examining, being affected with a post-diphtheritic paralysis?

Let us study the subjective symptoms. The history states that about the beginning of January, 1920, the child was quite ill for about six weeks. The mother says that he was suffering from "poisoning in his system." The symptoms at that time were inability to sleep, languor, dark rims under the eyes, lack of appetite and crying spells. The child recovered from this attack and was comparatively well for one week when he developed an attack of measles. Fortunately one of our medical men was called in by the mother to attend this patient during his attack of measles. He observed the general weakness in the patient's neck and made a diagnosis.

Let us now cross-examine the mother. We find that the child had suffered no previous illnesses. Two months ago, viz., in January, 1920, he had the attack already described. The mother says that the fever was accompanied by swelling of the glands on both sides of the neck. The mother also states in the witness-box that one week after the onset of the fever she noticed weakness of the neck evinced by the head falling forward and, further, the boy's voice was weak, that he regurgitated fluids through his nose and he was unable to stand.

Fortunately, to complete the list of subjective symptoms, I may say that our associate who attended him during his attack of measles, which you remember followed the most interesting illness which we have described, confirms the mother's statements and tells us that the symptoms already noticed by the mother became more marked during the attack of measles.

Regurgitation of food due to paralysis of the soft palate, ocular symptoms, such as squint, paralyses of the muscles of the neck, and pareses of the muscles of the lower extremities are often due to the toxines eliminated by the bacillus of diphtheria and follow an attack of this disease. There is another symptom which might almost be considered pathognomonic of post-diphtheritic neuritis. This is an early loss of patellary reflexes without any paralyses. Let us, then, make a careful examination of our patient in order to ascertain what are the objective symptoms. The child is well formed. The pupils of his eyes are equal and active. There is no strabismus or nystagmus. One of our attending physicians, Dr. Lindsay, reports that there is nothing abnormal about the heart or abdomen. There is definite weakness of the neck muscles. The head falls forward and cannot be held in the erect posture. There is no loss of power in the arms. The legs, however, show marked weakness. He is unable to stand without support and he cannot walk. The tone of the leg muscles is definitely diminished.

None of the tendon reflexes are obtainable. The knee jerks are definitely absent. There is no clonus. There is no Babinsky. The voice is very definitely husky; the few words which the child pronounces are nasal. The palatal does not move on stimulation.

Let us epitomize. There is a definite history of an attack of fever in January when the cervical glands were enlarged. From the subsequent development of weakness of the neck muscles, hoarseness, nasal speech, the regurgitation of fluids and from the entire absence of tendon reflexes there can be no doubt that the attack of fever, in January, 1920, accompanied a pharyngeal diphtheria and that the condition from which the child is suffering now is a post-diphtheritic paralysis.

A student: You have mentioned that the weakness of the neck muscles always makes you think of a post-diphtheritic paralysis. Do many cases present themselves at the hospital with such complaints?

The clinician: Just a week or two ago a little boy, Dominique V., aged four and one-half years, No. 88/20, was brought to the Children's Memorial Hospital with the complaint that he was suffering from weakness of the neck and legs, which had come on only a few days before his visit to the hospital.

The mother in this case was interrogated and it was found that the child had had a swelling about the neck just two weeks previous to the onset of the weakness of the neck and legs.

A careful examination was made and the child was found to have a post-sterno-mastoid cervical adenitis on both sides. There was convergent strabismus. The child was unable to hold up his head, which tended to fall forward. The muscles of the back, chest, abdomen, including the diaphragm were apparently normal, as were those of the upper extremities. The legs were definitely weak. There was no clonus, no Babinsky, but a definite absence of the knee jerks.

There was no history of the child ever having regurgitated food through his nose. On examination

there was no apparent paralysis of the soft palate. The urine, however, showed albumin, with a few hyaline and granular casts.

In this patient two possibilities were considered: First, the possibility of the weakness complained of being due to poliomyelitis, and, second, the possibility of it being due to a post-diphtheritic neuritis. It was felt, undoubtedly, that it was a case of the latter. Although there was no history of regurgitation, this may not have been noticed. Although there was no paralysis of the soft palate and although there was no paralysis of the extremities, there is a definite history of ocular paralyses. There is a marked flaccid paralysis of the posterior cervical muscles and the knee jerks are absent. The distribution was enough to differentiate between poliomyelitis and a post-diphtheritic neuritis. The indefinite history of a feverish attack might have been elicited in either affection, but the distribution of the paralyses was characteristic of a post-diphtheritic neuritis. Again—while it is quite possible that one may have a nephritis coincident with an attack of poliomyelitis, an attack of nephritis more frequently accompanies diphtheria. Lastly, there is a definite history of the patient having suffered from cervical adenitis only two weeks before the advent of the cervical paralysis. Surely these symptoms are sufficient to justify us saying that this case also was one of post-diphtheritic paralysis.

The prognosis is good in these cases. With treatment and even without treatment the paralysis seems to clear up.

Importance of Differential Diagnosis in Acute Eye Inflammations

Particularly Pertinent to the General Practitioner

By L. F. Long, M.D.,
114 N. 6th Street, Zanesville, Ohio.

Often Regretfully Confused

To the general practitioner the eye appears to be a subject not worthy of serious study. The result is that conditions similar outwardly but profoundly dissimilar structurally, such as glaucoma and iritis, are often regretfully confused. Such being the case, a review of the important points on the usual inflammations of the eye is certainly not out of place.—Editors.

THERE ARE A certain number of acute eye inflammations that usually pass through the hands of the general practitioner first, and upon his diagnosis and treatment the fate of the eye may depend. Quite frequently very reputable physicians treat iritis, corneal ulcer, or even glaucoma, in fact, about all red, inflamed eyes, as conjunctivitis, thereby losing valuable time and endangering the integrity of the eye. And when we consider the all too common error of treating acute glaucoma with atropine, thinking they are treating iritis, thus doing the eye great damage, sometimes total loss of vision resulting in a few days, I believe every physician should carefully fix the diagnostic points of difference in these acute eye inflammations, taking care of those he may be prepared to take care of and promptly referring the others to one who is qualified to take care of them. Diagnosis is the most important problem to be considered. With the diagnosis made, any treatise on the subject will instruct one how to treat the condition.

I wish to emphasize a few cardinal points in diagnosis. I am purposely leaving out the ophthalmoscope, as few general practitioners are skilled in its use. But every physician does need a magnifying glass for careful examination of the cornea. A good binocular loupe, used with oblique illumination, should give excellent results. If you depend on your own eyes, unaided, you will sometimes overlook a small foreign body or a small point of ulceration. When a patient comes in with a red, inflamed eye, giving a history of a few hours or days duration, make a systematic examination of the eye and lids. Make a careful examination of the cornea, with a magnifying glass and good light, viewing it from different angles, patient turning the eye up or down as you may direct. Observe the size of pupils, whether they contract to light; notice the condition of cornea as to clearness or steaminess. Inquire about discharge from eye,

whether eyes are glued together in mornings or whether eyes just "water." The tension of each eye should be taken by placing the index finger of each hand upon the closed eyelid of the patient and alternately pressing a little with one finger and then the other. A high pressure is easily made out by comparing the two eyes, unless they both have high pressure when they can be compared with some other person's eye that is normal. High tension makes the eye ball feel like a marble under the lid, while normal tension is softer and somewhat pliable under the pressure of the fingers.

The acute eye inflammations that are more commonly confused are: 1. Foreign bodies on cornea, or under lids or misplaced eye-lash. 2. Conjunctivitis. 3. Iritis. 4. Glaucoma. 5. Phlyctenular keratitis. 6. Corneal ulcers.

Foreign Bodies and Misplaced Lashes

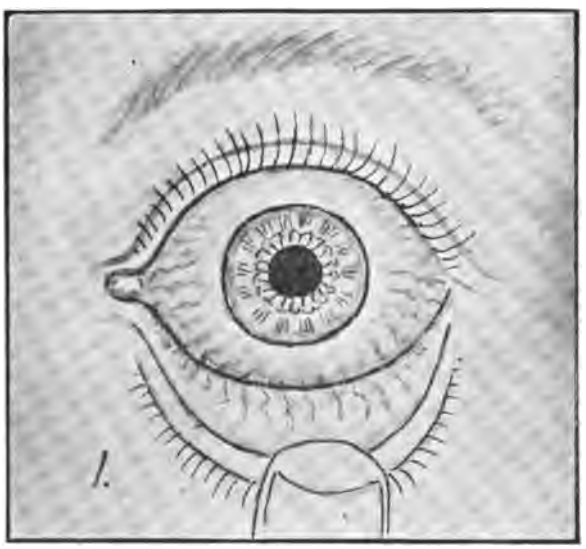
Foreign bodies and misplaced lashes should be seen by careful examination with loupe or magnifying glass with oblique illumination of cornea and inverted lids.

Treatment: One or two drops of 4 per cent. cocaine sol. in eye. Wait ten minutes and remove foreign body with a *sterile* eye spud. Foreign body and corneal injuries, if wound becomes infected, may become corneal ulcers.

Conjunctivitis

There are many forms of conjunctivitis, but we are only considering those acute cases which have been running a few days or weeks. Conjunctivitis is an inflammation of conjunctiva which lines the lids and is reflected back on the eye ball. It does not cover the cornea. Therefore we may have a violent conjunctivitis with so much swelling and edema that the conjunctiva may protrude between the closed lids and yet cornea remain clear and not affected. The conjunctiva is a mucous membrane and when inflamed throws off mucous as any other mucous membrane does. Therefore, when we have conjunctivitis we have mucous discharge from eye and eye lids. The eye lids are pasted together in the morning when patient awakens. *This is a diagnostic symptom.* Vision is not affected in conjunctivitis, pupils are same size and react fully to light; tension is normal, cornea is clear and bright. Conjunctivitis may come at any age.

Treatment varies because of the great variety of conditions. Instil argyrol, 15 per cent. sol., two drops, four times each day in eye. A few drops of adrenalin added helps to clear the eye promptly. In the old chronic forms silver nitrate, copper sulph., etc., are used. Zinc sulph. is very effective in some types of infection.

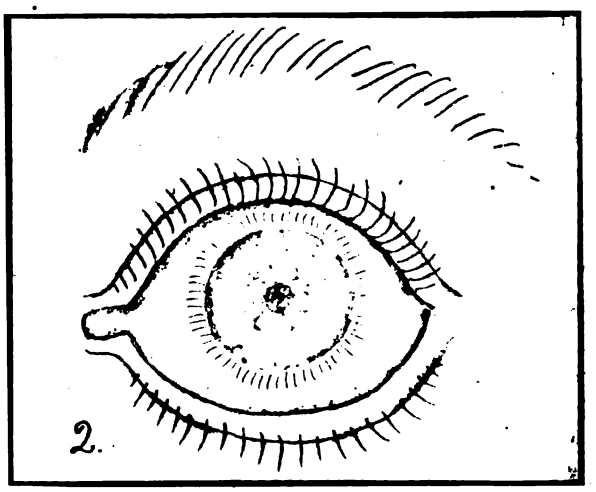


Cut No. 1. Conjunctivitis: Mucous discharge, eyes pasted shut in morning; pupils, vision and tension normal.

Iritis

Iritis is an inflammation of iris; sometimes, if severe and of long duration, will include structures close to the root of the iris (cyclitis).

Symptoms: *No mucous discharge,* but some watery discharge present; no sticking together of lids. Pupil contracted, sluggish, respond to light slowly or not at all. Vision is hazy; fine pink zone immediately sursounding the cornea. Pain is quite troublesome, often keeping the patient awake at night. Cornea looks rather dull and hazy. May occur at any age.

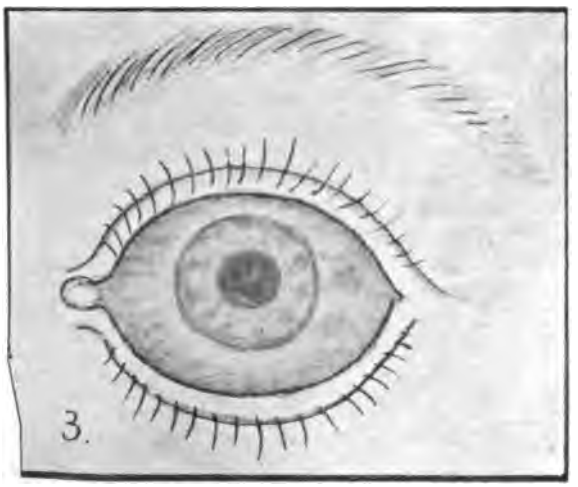


Cut No. 2. Iritis: No mucous discharge but eye waters, contracted pupil, vision somewhat hazy, painful, tension normal.

These are the cases that need atropine, and need it badly. Nothing else will quite take its place. Atropine is the remedy par excellence. One drop of 1 per cent atropine sol. in eye, four times a day, should be used. If that does not dilate the pupil well, use it oftener, or make it 2 per cent. sol. Keep the pupil dilated until the redness leaves the eye, then discontinue the atropine. Hot applications, sweats and laxatives are often indicated. If the iritis can be traced to some specific systemic cause, as rheumatism or gonorrhoea or autointoxication those factors should receive appropriate treatment.

Glaucoma

Acute glaucoma very rarely occurs in patients under forty years old. It is easily confused with



Cut No. 3. Acute glaucoma: No mucous discharge, dilated pupil, painful, increased tension, decided loss of vision. Patient over 40.

"iritis," and if the treatment for iritis—atropine—is applied to glaucoma great damage is done the eye, possibly total loss of vision.

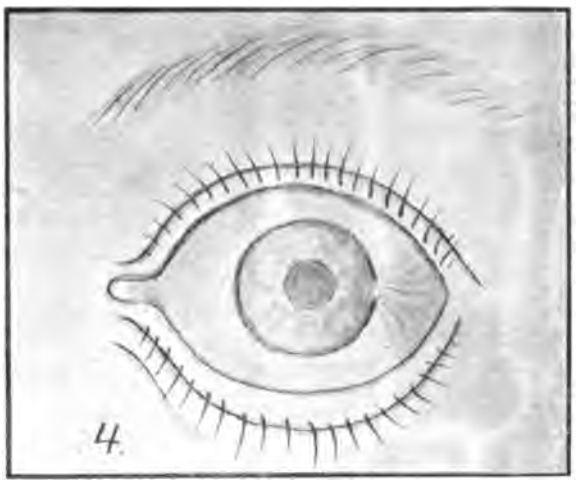
Symptoms of acute glaucoma: Eye is red and inflamed, no mucous discharge, painful pupil, slightly dilated (in iritis the pupil is contracted). Compare the two eyes. In one there is increased tension of globe and shallow anterior chamber. With a pupil decidedly larger than its fellow and with a marked tension we can make a diagnosis of glaucoma, while with a pupil decidedly smaller than its fellow and very little or no tension we have iritis.

Treatment: Glaucoma is an unsatisfactory condition to treat. Ultimately the majority of cases become blind; however, many years of useful vision may be saved to some of these cases by timely iridectomy. Eserin sulph., one grain to the ounce of water, is used to stay the process and in some cases it seems to hold the eye for long periods of time.

Other forms of glaucoma, such as simple glaucoma, may have no pain, no redness, etc., but these should not be confused with the acute troubles we have discussed.

Phlyctenular Keratitis

Phlyctenular keratitis is nearly always a disease of children, usually in scrofulous or undernourished



Cut No. 4. Phlyctenular keratitis: Small ulcer easily seen on corneal margin, photophobia.

children. We find on close examination of cornea a little whitish yellow ulcer at the junction of the cornea and sclerotic, and from this little ulcer a fan-shaped mass of red congested blood vessels spread out on the sclerotic. The eye is red and very sensitive to light.

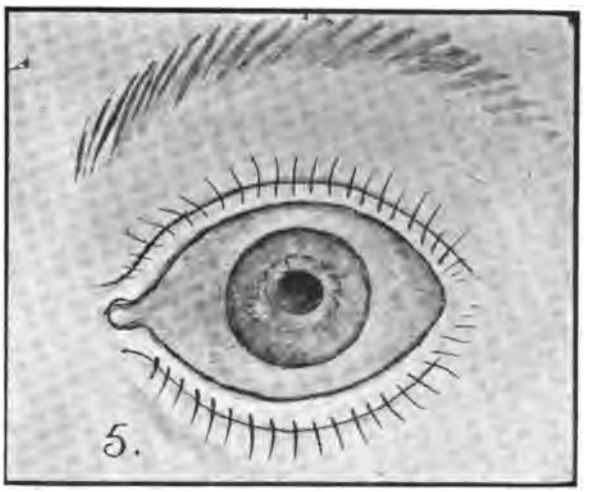
Treatment: Locally, one drop in eye, three times a day, of atropine sol. 1 per cent.; yellow oxide of mercury eye ointment, 1 per cent., in eye at bedtime. The best possible hygienic surroundings should be obtained, especially fresh air and wholesome food. Cod liver oil or syr. hydriodic acid internally may be indicated.

Corneal Ulcer

Ulcer of cornea can be seen by careful examination, often as small as a pin head, a small dirty gray white looking spot. The eye is red and inflamed and sensitive to light. Pain is severe and deep. Sometimes iritis develops. If the ulcer is not checked it may perforate the cornea and the eye be lost. There are many varieties of corneal ulcer, but we will not attempt to describe them here. If an ulcer reaches much size and depth it is sure to leave a white scar when it heals.

Treatment: Atropine sol., 1 per cent., in eye four times a day, argyrol 15 per cent. may be combined with the atropine. The ulcer should be cauterized with carbolic acid or the actual cautery. This should be

done promptly, as it is the most effective means of checking the extension of the ulcer. These six eye



Cut No. 5. Corneal ulcer: Easily seen by careful inspection, painful; eye red and inflamed.

conditions include practically all the commonly met acute eye troubles.

Ophthalmia Neonatorium

Ophthalmia neonatorium, a violent inflammation of the eyes of the new-born babe, starts with a severe conjunctivitis and often an ulcer of the cornea follows quickly, with great destruction to the eye. It generally occurs within a few days after birth, the infection coming from the birth canal of the mother. Prompt instillation of one drop of 2 per cent. silver nitrate sol. put in eye just once and followed with one drop of argyrol sol. 15 per cent. every three hours is usual treatment. The infection is nearly always gonorrhœal. We sometimes get a combination of two or more forms of eye inflammation, but this is more apt to be after the trouble has continued for some time. The most important thing to remember is to make a *careful examination,* with a good glass and good light.

(Eye illustrations drawn from life by the author).

The flea, louse, mosquito and fly have all been convicted of transmitting disease, and the bed-bug has been accused. The U. S. Public Health Service, however finds that he is probably innocent. If he ever does transmit disease, he does so by carrying the germs on his mouth and not in his blood, and he can do this effectively only under especially filthy conditions, which would call for drastic methods to exterminate all vermin.

Chronic Bronchitis and Pulmonary Infections Other Than Tuberculosis

Bronchial Spirochetosis

It is a tax on the best of professional skill to make a positive diagnosis of tuberculosis when there are no tubercle bacilli to be found in the sputum.

Bloedorn and *Houghton* have recently called attention to the existence of *Bronchial Spirochetosis* in this country (*Jour. A. M. A.*, v. 76, p. 1559, 1921). This disease was described by Castellani in 1906. Many cases have since been reported from all climates. It is apparently caused by Spirochæta Bronchiales.

Its Characteristics

It may be acute, subacute, or chronic. It is characterized by varying degrees of continued fever, cough, blood streaked expectoration.

The chronic cases bear a marked, though perhaps only a superficial resemblance, to tuberculosis. The symptoms mentioned are, of course, confusing.

Loss of weight is apparently not a striking feature of the disease. The patient may, however, gain in weight under treatment.

While the disease seems most often limited to the bronchi, the lungs revealing at most a few moist rales, consolidation and even pleural effusions have been observed as part of the picture.

Should Not Be Confused With Tuberculosis

Not particularly serious in itself, if miscalled tuberculosis, this disease may cause great loss and worry to the patient.

Such a mistake would be particularly regrettable in view of the fact that the cases have usually responded perfectly to a few doses of Arsphenamine.

The diagnosis is based on the presence of the spirochetes which must be searched for immediately after the sputum is expectorated.—Henry Phipps Institute, Philadelphia.

Factors in Abdominal Operations

Rough handling of the abdominal viscera and needless dragging or pulling upon the mesentery favor both post-operative tympanites and abdominal pain and discomfort. Gentleness in the separation of adhesions so far as possible along natural lines of cleavage will lessen the number of new adhesions that will form, and reduce the incidence of pulmonary and cerebral emboli. Complete hemostasis should always be sought. Whenever important vessels are ligated, if they cannot be thoroughly isolated, a suture should be introduced which will include enough proximal tissue to prevent slipping.—R. Wallace in *Southern Medical Journal.*

Skilled Technic Required for Best Results

in

Tonsillectomy Under Local Anesthesia

By F. A. Grafe, A.B., M.D.,
7 East MacMillan St., Cincinnati, Ohio.

"Anybody Can Remove a Tonsil," But—

Recently a dictum pervaded the medical press that "anybody can remove a tonsil." ainsi soit il! Just as readily as anybody can play a piano, and the longer you watch Paderewski, the easier it appears. But those who have never put their capabilities into actual practice, may well consider a few preliminary details before giving a public exhibition.

Preliminary Details

At irregular intervals the world reports results of mistakes in technic, mistakes which are followed with floral wreaths instead of banquets. Just recently a well-known laryngologist of Paris was summoned before the bar of justice because autopsy presented evidence that the carotis interna had been severed. While ordinarily the carotis interna is situated 20 mm. distal to the pars dorsolateralis capsulæ tonsillæ, still, occasionally, it approximates the capsula so closely that a carefully performed close dissection exposes a pulsating carotis in the bed of the fossa tonsillaris—a picture which simultaneously fills you with horror and joy—"how close, and yet, how lucky!"

Vox populi ever and anon will whisper, "my child is worse after the operation, than before," or, "the operation affected my voice."

When you examine the field, view the contracting scars—the severed arcus palatini, or the buried remains of the Kunstfehler, you may well exclaim, "Et tu Brute!"

A general knowledge of surgery, a thorough anatomical knowledge of the field of operation here, as elsewhere, is a conditio sine qua non. This granted, let us next consider the anesthetic, the position of the patient, the modus operandi and the after-treatment.

Anesthesia, Posture, etc.

The East, the Athens of American erudition, bounded by the north shore and the Charles River, and the West, centered, as you all know, in "The Queen of the West," have not fully agreed on the preliminaries.

The East almost exclusively employs ether, the sitting position, dissection plus snare, and recommends the coaptation of the nude surfaces of the "pillars" by means of two or three transverse catgut sutures—"you can go to bed without worry."

The West favors local anesthesia in the adult, ether in the child and the timid adult; the dorsal decubitus; the snare without preliminary dissection, except a few, who, dissentingly, employ the enucleator, or complete dissection; one operator still adheres to "finger" enucleation; in case of necessity only the pillars are coapted, with interposition of a ball of gauze in the fossa tonsillaris. Will the East come to the West? Whilst cogitating over future possibilities, let us calmly consider, ad interim, a few of the leading points.

Ether has many friends and many enemies. The same may be said of cocain, but ether has been accused of "helping the enemy" pneumococcus, "if it were so, it was a grievous fault and grievously has Cæsar answered it." Let's bury Brutus Cocain also, and in his stead may novocain, surnamed the procain, rule the destinies of Rome.

The sitting position, the natural position of choice in local anesthesia of the adult, assumed by the dormant child, offers many advantages. The position is favorable to the position of the operator in facilitating the different stages of his operative procedure, favorable to the patient, whose head may be bent forward, preventing blood from being aspirated or swallowed.

The Operation

Let us consider the different stages of a dissection operation. The anesthetic:

℞—Novocain	0.25
Adrenalin sol (1:1000)	5.00
Sodii Chloridi	0.90
Aquae dest. qs. ad.	100.0

Misce.

To allay fear and nervousness in the patient, administer a hypodermic tablet of morphine 0.015, placing same on his tongue about half an hour before the operation is to commence. The hypodermic administration will often increase the fear and offers no particular advantages.

The next step, the beginning of the operation, demands a prevention of gagging consequent to the introduction of the tongue depressor—the novocain solution, applied by a suitable hand atomizer, emitting a fine spray, will numb the mucosa pharyngis sufficiently.

An all-metal syringe, provided with an extension arm not less than 90 mm. long, the distal part bent at right angles, holding in its lumen a needle 10 mm. long, will carry the novocain solution to the field of operation. Introduce the needle into the tissues, to its "shoulder." Commence in the fossa supratonsillaris, plunging the needle through the mucosa, then, directing it dorsolaterocaudalward, press about half a grâmma between the meshes of the tissues, which connect the cranial part of the capsula tonsillæ to the walls of the fossa tonsillaris. Please observe, you are not injecting the tonsil, nor the walls of the fossa, merely the tissues which bind the tonsil to its bed. Effusion will take ample care of both the tonsil and the walls of the fossa. Whilst awaiting the effects, permit me to introduce gramma, the fluid equivalent of gram; "cubic centimeter" has caused considerable confusion, and besides he can be assigned to other duties. Milligramma, the infant sister of Milligram, has also just recently been born in the West.

We may now proceed with the anesthesia. The next introduction of the needle should cause no pain in the partially anesthetized cranial half of the ventral part of the fossa. One-quarter gramma into the meshes which bind the ventral part of the capsula to the walls of the fossa.

Similarly treat the caudal half and the cranial and caudal half of the dorsal part; then lift up the tonsil so that the tissues which bind the dorsal part of the tonsil to its bed be similarly infiltrated. Let us wait five minutes. Meanwhile assure your patient that he will not be hurt; that the operation is soon over, and teach him how to hold the handle of the tongue depressor in proper position.

The holding of the handle of the tongue depressor keeps him busy and disengages his mind from the point at issue. The simplex tongue depressor gives very good services. Introduce the semi-sharp point of the Tyding tonsil knife into the mucosa, overlying the caudal margin of the capsula. Slide the knife along just beneath the mucosa, cutting nothing but the mucosa. Hug the outer surface of the capsula closely, being careful not to incise the capsula; thus circumcise the tonsil completely.

The loss of blood, thus far, has been minimal, commencing at the bottom and working upward. The escaping fluid did not obscure the vision for the advancing knife. Now introduce the tonsil forceps—not into the cranial and caudal poles of the tonsil—leave the poles free, but internal to the pillars, then direct the handle toward the opposite angle of the mouth, to be held there by an assistant. With a retractor, the blunt points of which are introduced into the ventral parts of the fossa tonsillaris, withdraw the arcus glossopalatinus from the capsula tonsillæ. Introduce the blunt point of the Killian tonsilknife between the capsula and the retracted arcus, and sever the strands of tissue which bind the capsula to the arcus. Move the handle of the tonsil-forceps into the opposite angle of the mouth, retract the arcus pharyngopalatinus and proceed with your Killian as in the first instance.

The tonsil is now attached only at the cranial and caudal poles, and a very small area of the back.

Lift the tonsil cranialward, so as to put the tissues which bind the caudal pole on the stretch. As close to the capsula as possible, crush the binding tissues with a pair of artery forceps—Kelly's are peculiarly well adapted.

If the tonsil is normally hyperemic, presupposing the presence of large vasa, introduce a No. 1 catgut caudal to the crushing forceps, then tie carefully, so as to prevent possible future hemorrhage. Now sever the strand close to the capsula. Ordinarily the introduction of a ligature may be omitted, the crushing action being all sufficient. Similarly sever the tissues which bind the cranial pole. The remaining few strands which bind the pars dorsalis capsulae may be severed by means of the Robertson tonsilknife, hugging the capsula closely.

The operation is completed, bloodless as far as the regions affected will permit. The tonsil has been removed in toto; no harm has been done to adjacent parts; the mucosa, excepting that which covers the exposed surface of the tonsil, has been saved. The resulting scar tissue should be of minimal quantity.

After Treatment

The after treatment consists in keeping the wound clean. Frequent gargling with normal salt solution will generally be sufficient, but the daily application of iodo-glycerin, 5 per cent. sol., will facilitate matters.

Has the removal or cure of remediable defects in school children had the great beneficial effects that were expected? Nobody knows, for both time and follow-up methods have been lacking. Now, however, the U. S. Public Health Service is making arrangements to have such children in all parts of the country followed up for some years to learn how greatly they actually have profited by the help given them. It will welcome additional information along these lines from all sources.

Prostatic Troubles

With this gland as with other organs of the body, the best prophylaxis seems to lie in seeking as normal a life as possible. The seduction of the "skirt" seems to promise great things to the young man in his vigor, but in proportion as he yields, good old Dame Nature seems to charge it up, and later in life may give him some pretty serious occasion for thought as, in one way or another, she puts a kink in this unimportant little gland which causes the gentleman afflicted to lose all interest in the rest of his anatomy, until the trouble is allayed.—R. E. Dickson, in *Boston Medical and Surgical Journal.*

An Efficient Future for Medical Practice

Medical organization and practice, to promote *efficiency*, requires two things:
1. That the public make the *fullest* use of *efficient* practitioners.
2. That medical men receive adequate income to provide the means and methods *necessary to efficiency*.

These two things are *interdependent*.

This department is conducted as a *forum* for *constructive* discussion of these vital factors in *medical progress*.

Is the Government Letting Down the Bars to Quackery?

Chiropractic and the Federal Board for Vocational Education

Doctor, What Do You Think of It?

What does the Medical Profession think of this governmental letting-down of the bars to quackery? What have the medical services of Army and Navy, the Public Health, or the American Medical Assotion done in protest against it?

THE SENATE COMMITTEE appointed to investigate Government activities for the relief of former service men made, about the last of October, a report that was sweeping in its criticism of many things and its condemnation of others, inclusive of some hospitals. Among other recommendations it suggested the elimination of politics from appointments, cancellation of certain contracts, reduction in personnel and the necessity for a get-busy management of affairs; and all of this largely due to the fact, as reported, that only 5,050 ex-soldiers have been rehabilitated out of 388,000 applicants. A part of the fault is due to unsuitable and poorly managed hospitals, some of them, it is alleged, selected and the personnel appointed for political reasons. This latter charge may or may not be justified, but if it is warranted by the facts, it is simply another instance of the fact that no sort of medical or hospital service can be effective when politically controlled.

THE AMERICAN PHYSICIAN does not care to embarrass any governmental board in its activities; but we have been on the ground in Washington sufficiently, and have talked with capable physicians in governmental activities rather directly to the point, and hence we are in position to assert that these physicians have been embarrassed by political pressure in their work, and therefore it is not at all remarkable that special investigation by the Senate finally became necessary and revealed the fact that too much politics was at the bottom of the whole trouble. Certainly a Senate committee would not so report without abundant justification.

Healing and Alleged Healing

While it is not our purpose to minimize in the least any criticism directed against certain hospitals and their medical management, we do wish to submit a verbatim copy of a Government bulletin which sheds a little light on the subject of what politics does when it mixes up with medical affairs. This bulletin is as follows:

Information No. 97
Information No. 81 rescinded hereby.

FEDERAL BOARD FOR VOCATIONAL EDUCATION
Division of Vocational Rehabilitation
Washington, D. C.

July 14, 1921.

From: Assistant Director for Vocational Rehabilitation
To: All District Vocational Officers and Others Concerned
Re: Chiropractic, Training in
(Of. Information Nos. 91 and 94.)

1. Under the conditions set forth below, district vocational officers are authorized to place men in training for the practice of chiropractic. Some districts, it will be noted, have optional opportunities.

Districts Nos. 1, 2, 3 and 4—
Eastern College of Chiropractic, Newark, New Jersey
Districts Nos. 4, 5, 6 and 7
Universal Chiropractic College, Pittsburgh, Pa.
Districts Nos. 7, 8 and 14
National School of Chiropractic, Chicago, Ill.
Districts Nos. 9, 11, 12, 13 and 14
Palmer School of Chiropractic, Davenport, Iowa.
Districts Nos. 10 and 13
St. Paul College of Chiropractic, St. Paul, Minn.

2. Before placing a man in training for the practice of chiropractic, the district vocational officer shall secure a written statement from the man, embodying the following points:

(a) That he is choosing this course on his own initiative and responsibility, and will not in any way look to the Board for assistance in placement.

(b) That chiropractic may be legally practiced in his state of residence or in the state in which he contemplates residing after the completion of his course. In the latter instance satisfactory evidence will be required to support trainee's intention of change of residence.

3. District Vocational officers are directed to secure from the Medical Examining Board of each state in their districts, a statement as to the legal status of a practitioner of chiropractic. A copy of this statement must be filed in Central Office on or before August 10. This

Information No. 97
Page 2

is asked for in order that Central Office may have complete information concerning legislation that has become effective during the year 1921. No man should be put in training for the practice of chiropractic who is a resident of a state in which such practice is prohibited by law except under the condition stated in subparagraph (b) under paragraph 2 hereof.

4. Whenever possible men should be dissuaded from taking up this work, but those who insist upon being trained for it will be assigned in accordance with paragraph 1 hereof. If they desire to be transferred to a designated school otherwise than as listed, they must pay their own traveling expenses.

5. The district vocational officer Dist. No. 8 will negotiate a contract at regular rates with the National School of Chiropractic, Chicago, Ill.; the district vocational officer, Dist. No. 10, will negotiate likewise with St. Paul's College of Chiropractic, St. Paul, Minn. and both district vocational officers, numbers 8 and 10, will provide all other district offices with catalogues of the two new schools designated herein. The regular procedure in regard to transfers will be followed, except as noted in paragraph 4.

R. T. Fisher,
Assistant Director for
Vocational Rehabilitation.

Doctor, note especially paragraph 4, which "lets the cat out of the bag"; for it is stated to us by genetlemen in position to know, but not by officials, that this chiropractic training was forced on the Board by congressional pressure; and it is quietly hinted that there was much futile anger engendered by the fact that the hands of the Board were forced by politicians.

We Wonder

1. What do the medical services of the Army and Navy think of this governmental letting down of the bars to quackery?

2. What does the United States Public Health Service think of it?

3. What does the American Medical Association think of it, and what did it do to protest against it?

4. Doctor, what do YOU think of it?

A Lesson For Us

Some man is ambitious to be elected to the Legislature. He tells his physician, who is not interested and who smiles quietly to himself, believing that Mr. Man has no chance for election. Mr. Man approaches other phyisicians. Nothing doing!

Then a chiropractic is approached. Business of handshaking and good fellowship. Mr. Chiro lines up Mr. Man to his way of thinking and secures the active help of all chiropractics and their friends in the district. Furthermore, the Chiropractic Association advertises regularly in the newspapers, and says a good word to the editors for Mr. Man. Don't forget that Mr. Chiro is exactly the kind of man that loves to break in as a political worker, while Mr. M. D. seldom takes an active interest in politics.

Mr. Man is elected and becomes The Honorable Frank Man. Then, when a bill comes up in the legislature granting all sorts of powers to a Board of Chiropractic Examiners, what does the Hon. Frank Man do? Go ask the Federal Board for Vocational Education.—T. S. B.

Harmony Where General Practitioners and Specialists Come in Contact Requires Understanding and Team Play

By H. W. CHAMPLIN, M.D.,
Towanda, Pa.

THE PEREMPTORY command of a general practitioner to me to remove the segments from a pair of bifocal lenses prescribed for one of his patients and mine reminded me again of the antagonism between the family doctor and the specialist. The former allows his jealousy to deprive him and his patients of the help afforded by the practitioner who specializes in certain lines; and he shows his ill-feeling by assuming an air of superior knowledge in the other fellow's specialty. The same doctor sent a child back with the statement that his lenses were not right, and that I must change them. The eyes had been refracted under atropine, and some latent eye-strain corrected. Of course there was slight blurring of vision at first, but this was essential to the relief of headaches and other symptoms of eye strain. The doctor was a troublemaker instead of co-operating with the specialist to his own very great advantage as well as that of his patients.

Co-operation Needed

It is to the eye specialist that the family doctor manifests the worst spirit. He has some test letters in his office, and desires to determine if the glasses prescribed are right—being quite free with adverse opinions and criticisms, or, perhaps, expressing an equally unwarranted approval. His object is not to be so really mean as he is, but to show that his knowledge is not inferior to that of his fellow who has fitted himself for special practice.

In another way, also, the general practitioner vents his spleen most unworthily. According to him the specialist has charged too much; he thus puts himself in right with the family to the disadvantage of the specialist.

The bad motive is due to this: The specialist has formerly been a fellow general practitioner who has at the expense of much time, money, and office equipment fitted himself for special practice. He has thereby gotten away from his co-worker and seems to be making more money with less hard work. Therefore the yet general practitioner "has it in for" his erstwhile fellow-worker. Or the specialist is a young man having had superior advantages, but has not had the experience of the family doctor; he manifests an over-weening desire to immediately acquire a highly lucrative practice. Such an attitude is not acceptable to the older men of the profession and accounts for the want of harmony between the general doctors and the specialists.

However, this animus is passing away, though, in spite of the apparent optimism, there is still an undercurrent of jealousy that does not tend to utmost good feeling and co-operation in the profession.

A young lady calls on the eye specialist with complaint of headaches hitherto incurable. She has taken headache palliatives until the last doctor has said it is not safe to take more; so as a last resort he has sent her to the oculist for refraction. Why has he not sent her first instead of last? He could then have treated her with profit and credit to himself.

Reciprocity Best for All

A most unworthy motive is that which prompts the family doctor to send his patients to a specialist in another town when entirely unwarranted by the suc-

cess and reputation of the specialists. His patients are thus forced to incur extra expense and inconvenience to gratify an unworthy and unjust animosity.

This want of helpful and happy harmony in the medical profession has been the weakness that has permitted the osteopaths, chiropractors and optometrists to break into what ought to be and is strictly and exclusively medical work. It is true that "team work" is being practiced with more or less success in recent years. The same co-operation should be practiced by all medical practitioners whether nominally team work or not. By helping others we help ourselves if all adopt the method. But are we sure of reciprocity from the other fellow? Perhaps no one has ever tried it out more faithfully than the writer, and so far he is convinced that the millennium is not at hand.

THE AMERICAN PHYSICIAN wants to print both sides of a question; our pages are open. Doctor, what do you think?

Caution Patient, Using Argyrol,

Danger of Argyria, Too Long Continued

CASE REPORT

By HYMAN I. GOLDSTEIN, M.D., Camden, N. J.
Assistant in Medicine, Graduate School of Medicine, University of Pennsylvania, Phila., Pa.

I HAD OCCASION to see a man in Atlantic City last summer who give the appearance of being very cyanotic. His face, lips and hands were a peculiar slate-blue color.

On examination, I found that Mr. Thomas R., was a Unitarian minister, aged sixty-one years. His home was in Boston, Mass., but owing to chronic bronchitis (?) he came to Atlantic City where he felt much better and therefore decided to remain here.

He had influenza two years ago, scarlatina at thirty-two, smallpox at eighteen. He also had malaria. Nine years ago he had sore throat and was advised by his physician to use *Argyrol.* He continued the use of Argyrol twice daily for a year. He then noticed that he was turning "blue"—and has remained so.

There is a faint murmur (systolic) heard, after exercise, at the apex; otherwise general physical examination is entirely negative. Spleen was not palpable. Systolic blood pressure 122, diastolic 80. He "feels pretty good." Never had swelling of feet and legs. There is no clubbing of the fingers, no evidence of myocardial disease, of polycythemia, or emphysema, or congenital heart lesions.

Gottheil, November 21, 1909, reported before the Medical Society of the County of New York a case of argyria in a man, aged thirty-seven years, who had syphilis. For seven years or more he was in the habit of applying a 10 or 15 per cent. solution of silver nitrate freely to his *throat,* several times a day. Undoubtedly, large amounts of the drug were gradually swallowed.

Crispin, of New York, in the Journal of the American Medical Association, May 2, 1914, page 1394, reported a case of argyrism in a young woman, who was taking collargol internally. *Hexamethylenamin* in ten-grain doses seemed to cause the dark color to fade, her complexion becoming several shades lighter.

Ballenger, of Atlanta, reported an unusual instance of poisoning with argyrol injected into the deep urethra and bladder, in a man aged 35, and mentions the fact that he has seen two patients with idiosyncrasies for argyrol when injected into the urethra.

Smith's case of argyria occurred in a man aged 55—after taking silver nitrate in quarter-grain doses, three times daily, for three months. The exposed surfaces, the skin of the hands and face, were chiefly affected. In the case reported by *Guillemot, Michaux and Duval,* silver nitrate pills were taken internally for tabes, a daily dose of 0.01 gm. for ten years.

In *Lochte's case,* argyria followed the use of injections of silver arsphenamin in a young woman, aged 21, who received seven (7) injections of neoarsphenamin, and later on was given injections of silver arsphenamin, which made her skin (face and body) a steel-gray color, also the eyes showed the same discoloration.

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"RADIUM IN DERMATOLOGY"

C. J. BROEMAN, M.D., Cincinnati, O.

Author's abstract from the December issue of the *Ohio State Medical Journal.*

Radium is proving a most valuable addition to the equipment of the dermatologist. The results upon basal-celled epithelioma are especially good. The half-strength ten milligram radium plaque is the best apparatus for these cases. Radium is especially use-

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When Mineral Oil Is Needed

too great care cannot be taken in selecting the particular oil to use, in order not only to assure the beneficial results desired but to avoid the objectionable effects that are invariably produced by oils of questionable purity and indifferent quality.

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painstaking practitioners have a mineral oil that presents in the highest degree, the purity, quality and physical properties that give it maximum efficiency as an intestinal lubricant. Especially is it free from the lighter hydrocarbons and sulphur compounds liable to prove irritating to the intestinal canal or the renal structures.

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Give one to two tablespoonfuls of Interol before meals, three times a day, gradually decreasing the dose as its lubricating action becomes apparent.

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ful in working about the eyes and eye-lids. Endothelioma of the face responds quickly to radium therapy.

Epithelioma of the lip is especially adapted for radium treatment and very brilliant results have been obtained in cases where it has been employed.

The author has had satisfactory results in treating such conditions as plantar warts, keloids, acne rosacea, intractable pruritis, keratosis senilis, psoriasis, lichen planus, lupus and tubercular skin conditions.

It is the treatment of choice in angioma, lymphangioma, leucoplakia, and eczema of the lips. Radium cures cases of sycosis when all other usual methods fail.

The author reports eight cases of lupus erythematosis of the mucous membrane cured with radium.

He describes a different technique for the treatment of extensive hypertrichosis with radium, and reports his successful results in all cases, the cosmetic result being superior to any other known method.

He has treated successfully cases of epithelioma and papilloma of the cornea, vernal catarrh and other eye conditions which were referred by oculists.

Danger From Automobile Exhaust Gases

At the suggestion of the Surgeon General of the United States Public Health Service, the State Commissioner of Health issued today a warning regarding the danger to health and even life from the inhalation of exhaust gases from automobiles. The effect of these gases is produced very quickly, usually before the victim realizes the danger.

The following precautions should be observed in all garages:

1. Always open the garage door before starting the engine.
2. Do not allow the engine to run for any length of time in a closed garage.
3. Do not work near the exhaust of a running automobile engine.
4. Special precautions as to ventilation are necessary when in garage pits.
5. When the exhaust is used for heating a closed car, the system must be free from leaks.

Persons overcome by exhaust gases from automobiles and gasoline engines should be removed to fresh air, and artificial respiration performed until a physician arrives.

Sale of Horsehair Shaving Brushes Prohibited

Because it has been found that anthrax may be contracted through the use of shaving brushes made from horse hair, the Public Health Council of the State Department of Health has passed a regulation effective January 1, prohibiting the manufacture, sale or the offering for sale of such brushes in the State of New York.

Shall the Calories Be Forgotten?

During the World War, at a time when the food supply of every nation presented many pressing problems closely involving the welfare of its people, and when it became quite customary to speak in terms of millions of calories of foodstuffs as well as millions of rounds of munitions, an American humorist said: "After all, we eat food and not calories!" This facetious remark was widely quoted and doubtless provoked a variety of trains of thought in the minds of the different persons who heard it. The world was undergoing a great experiment in nutrition on a scale never before witnessed. While thrones were tottering and kingdoms were being obliterated, millions of persons were being compelled to change their customary diets and to subsist on a greatly decreased food intake. The rations continued to be reduced from month to month until the allotted daily quota per person in Austria, for example, fell from 1800 calories to 1000 calories, and finally even to 800 food fuel units. At this time supplementary food was purchasable only with the greatest difficulty and at extreme prices if at all—and yet people continued to live. There were reports that some of the sick, notably diabetic patients and victims of certain gastro-intestinal disorders, were improving in health. Little wonder, then, that thoughtful persons should ask whether the nutrition standards of the physiologists since the days when Voit preached the doctrine of 3000 calories a day for the average man were false. Had the civilized world been enjoying an orgy of food during the past generation? Had peace and prosperity induced a "luxus consumption" of nutriment? Was the headliner correct when he announced that "calories have killed more persons than has disease"?

The world-wide experiment has progressed to a stage at which it is already possible to evaluate some of the results and to determine whether the slogan of a return to the simple life should include an appeal for a reform of conventional standards of nutrition. A survey of the nutritional customs of the diverse nations of the earth leads to the conclusion that, despite the wide variations in climate and in economic and agricultural conditions under which they exist, they, nevertheless, manifest a surprising similarity in consumption of the fundamental nutrients. It is difficult to escape the conviction that mankind seeks food in appropriate amounts in response to a well-defined instinct which Rubner once designated as "Nahrungstrieb." Statistics demonstrate that, where some freedom of choice exists, the daily intake of the "average" man, whether he be a native of England, Japan, Russia, France, Germany, Italy or America, approximates 2700 calories. Nutritional surveys have demonstrated that in times of plenty, at least, the data of food intake are almost identical in the case of inhabitants of Rome and Helsingfors, of Boston and Berlin.

Some one will naturally inquire: Does not enforced decrease in food consumption increase the availability of the less abundant ration? Numerous investigations in the Central Empires have shown that this is not the case. There is no evidence for an adjustment of the alimentary tract of man to secure a better utilization of war-time dietaries, many of which were uncomfortably

(Continued one leaf over)

KELLOGG'S BRAN

cooked and krumbled

permanently relieves many stubborn cases of Constipation



Kellogg's Bran, cooked and krumbled, is coming into very general use as a natural means of relieving constipation. While the laxative properties of Bran have long been recognized by physicians, there has been very little information regarding it in the books ordinarily in the hands of medical practitioners. The evident reason for this is that Bran is not a drug.

As of course you know, Kellogg's Bran, cooked and krumbled, adds to the indigestible residue in the bowel tract. Its bulk serves to distend the intestine, thereby inducing better peristaltic action.

Try This Delicious Bran Recipe!

2½ cups Kellogg's Bran
2 cups hot water
½ cup raisins

Boil for 10 minutes. Place in buttered bread tin. Let stand over night. Slice and serve same as Boston Brown Bread.

Kellogg's Bran, cooked and krumbled, unlike common Brans, is deliciously palatable, inviting, appetizing. You will thoroughly enjoy it yourself. It will benefit you greatly.

Please mail us a request card today. We will send you—without the slightest obligation—a large package of Kellogg's Bran, cooked and krumbled. Eat it as a cereal or on your cereal or have it used in muffins, raisin bread or countless other ways that appeal to your taste!

Results from eating Kellogg's Bran regularly will be so gratifying that we feel sure you will prescribe it with great confidence.

Kellogg's *Look for this signature W. K. Kellogg*

the original BRAN - *cooked and krumbled*

abundant in cellulose and similar indigestible components. The war has not converted man into a successful herbivorous animal; on the contrary, according to many medical reports, the enforced intake of bulky plant products caused much gastro-intestinal distress. Nor did increased mastication enhance the availability of the nutrients. The laws of the conservation of matter and energy have remained unchanged. A noteworthy reduction in food intake has been followed by a compensatory loss of body tissues and by reduction in working efficiency. *Ex nihilo nihil fit!* Hence Professor Durig has recently reminded an audience of physicians in Vienna that the accepted standards of nutrition should not be abandoned; for every experience of the last few years points to their wisdom. The customary food habits of the world represent an optimum which we must not juggle. The experiences of the war, Durig said, have taught clearly that departure from these norms leads to undernutrition and its consequences, from which neither enhanced digestion nor mastication nor any panacea can furnish protection. The same story is echoed throughout Europe.

In these comments there is a lesson which looks to the future. The nutritive needs—the caloric requirements—of children have not usually been appropriately recognized in the past. It is now beyond dispute that during adolescence the needs of children of both sexes may exceed by nearly 1000 calories a day for each person the requirements of the adult man or woman of moderate activity. At the age of one year the average caloric requirement approximates 100 calories per kilogram (two and one-fifth pounds), falling to about eighty calories at the age of six and continuing at this value until the tenth year. There it remains until growth is complete, when the adult standard of about forty-four calories per kilogram suffices. Holt and Fales have also found that the average amount of protein taken in the usual mixed diet by more than 100 healthy children ranged from 44 gm. (one and one-half ounces) daily in the second year to 130 gm. (four and one-half ounces) daily in the fifteenth year. The latter figure exceeds the average adult need, and obviously should do so, since adults require protein for maintenance only. The amount of protein per kilogram of body weight taken by these children averaged about 4 gm. (61¾ grains) at one year, diminished to about 2.6 gm. (40 grains) at six years, and remained at about this value until the end of growth. So long as we preach the doctrine of *mens sana in corpore sano*, we must not skimp the food allowance of the coming generation. History now in the making is teaching what underfeeding may result in. Editorial J. A. M. A.

The Effects of Undernourishment

Graham Lusk[1] has recently painted a vivid picture of the effects of undernourishment on the people of the central powers during the period of blockade. As he says, most of the food difficulties occurred in middle class families, among such persons as teachers, business people and pensioners, who could not demand and receive the enormous pay of common laborers. It is to be recognized, however, that the laborers need more food than those of sedentary occupation, and the first result of insufficient diet, according to Rubner, is a decrease in the efficiency of labor. Nevertheless, the people of less vigorous occupation show also marked effects, and the usual muscular activity necessary to maintain health is avoided because of a sensation of fatigue. Those who have been in undernourished communities recognize the situation especially by the fact that the children do not care to play, but are as inactive as elderly rheumatics; the chief reward of the relief workers is the sight of the children resuming their play after a few days of adequate diet. Even mental activity shows a corresponding depression. Lusk says: "The love of accomplishment, the power of performance, the note of personal initiative are absent, which impulses under ordinary conditions increase the assimilation of food and favor muscular energy. As the mind becomes depressed, muscular movements become slow and listless. It is related that a distinguished mathematician of Leipzig, in order to conserve his food requirement, remained in bed most of the day, doing his intellectual work while in bed. Zuntz and Loewy, who for years have been among the leading German students of nutrition, had the opportunity to follow their own metabolism from its prewar figures through the steps of emaciation until they had lost, respectively, 13 and 22 per cent. of their weight.

The recent hectic period of study of nutrition, with particular reference to the vitamines, has not limited itself to consideration of human beings, or even of animal organisms, but even unicellular forms have had their nourishment needs carefully considered. It has been found that yeasts and bacteria need their vitamines as much as any one else; and although they may be able to get along with simple food supplies of limited variety, yet there are certain conditions that must be met, or a famine district arises in the bacterial community. It is interesting to learn that bacteria subjected to protracted undernourishment behave in quite the same way as German professors or Russian children. Braun[2] has studied this subject at length, and tells us that proteus bacilli grown on a medium defective in nutrition also show a disinclination to wander over the surface of the medium, or to swim about in the hanging drop, and shortly they are seen to have lost their organs of locomotion, the flagella, as being the least vital part of their structure. As new generations of bacilli grow under famine conditions they are seen to be smaller and smaller, stunted forms more like cocci than like the well formed proteus bacillus. With the reduction in the size of each organism the ratio of surface to mass becomes increased, and so each individual becomes more capable of securing under competition adequate food from the impoverished rations. This recalls the statement of Gibbon and Ferguson that the children of Vienna between two and three years of age were 26.5 per cent. under normal average weight and 13.6 per cent. under the normal average height. Braun found that his emaciated bacilli, if grown for thirty generations on a starvation ration and then transferred to an adequate diet, continued for some time to produce stunted forms without flagella, only gradually returning to the normal proteus structure. It is fortunate that the war famine did not last for thirty generations. Even the Thirty Years' War did not produce a race of dwarfs, and we may hope that the effects of the three years of short rations in Europe will not produce permanent changes in the stature of the population.—*Editorial. J. A. M. A.*

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The Path of Infection in Pneumococcic Invasion of the Lungs in Man

Since the publication in 1897 of the late Dr. Samuel Gee's aphorism, "Pneumonia is not a local but a universal disease; and the brunt of it may fall upon any part —lungs, endocardium, membranes of the brain, intestines, kidneys," the path of infection in pneumonia, whether by the blood vessels or the air passages, has

(Continued one leaf over)

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As every doctor knows, this brings about a marked degree of conversion of the carbo-hydrate elements, resulting in the development of dextrin, maltose and dextrose—readily utilized by the animal economy to yield heat and energy.

The well balanced and high food value of Grape-Nuts is shown by the fact that Grape-Nuts contains 95.25% of solids, including 11.88% of protein; 78.76% of carbo-hydrates (of which 48.24% is soluble, as dextrin, reducing sugars, etc.) and 2.27% of mineral salts.

These salts include

Potassium chloride	4.55%	Calcium phosphates	5.42%
Sodium chloride	34.33%	Magnesium phosphates	24.20%
Calcium sulphate	1.96%	Iron phosphate	0.62%
Potassium phosphates	22.87%	Silica	2.02%

You can now see why Grape-Nuts is about the best food you could recommend for building bone, tooth and nerve structure. And why, when combined with cream or milk, it is admittedly a complete food.

Start a few of your malnutrition cases on Grape-Nuts, Doctor—a liberal dish for breakfast and, occasionally, a Grape-Nuts pudding for lunch or dinner—and note the difference in their condition inside of a month.

Samples of Grape-Nuts, for individual and clinical test, will be sent on request to any physician who has not received them.

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been the subject of controversy. In the Lumleian lecture for 1912, "On some moot points in the pathology and clinical history of pneumonia," Dr. Percy Kidd, relying mainly on the early occurrence of septicaemia before the appearance of local signs, summed up in favor of the haemic route. Recently, in a paper giving the results of a histological and experimental research, Drs. R. R. Armstrong and J. F. Gaskell classify the pneumococcic infections of the human lung as follows: (1) Air-borne, (*a*) lobar pneumonia, (*b*) broncho-pneumonia; (2) blood-borne, miliary pneumonia; and (3) lymph-borne infection, relapsing pneumonia. In lobar pneumonia the infection is seen to be first localized in the bronchioles, all of which in the area of inflammed lung are affected; their epithelium rapidly becomes completely desquamated, and the infection then spreads into the alveoli, reaching last those furthest from the bronchioles. As compared with this histological evidence, the occurrence of positive blood cultures is not regarded as an argument of weight in deciding the path of infection, for experiment shows that infection of the extremely vascular lung easily leaks into the general circulation, especially in the early stages before the establishment of local protective reactions. The generally accepted opinion that lobar and bronchopneumonia are essentially the same process is confirmed and extended; in both the pneumococcus reaches the lungs by the air passages and settles in the terminal bronchioles; the factors determining whether the reaction is lobar or bronchopneumonic are the virulence of the organism and the resistance of the host; for children and old persons react to less virulent infections than adults, in whom greater vigor of the respiratory movements may play a mechanical part by materially assisting in the rapidity of infection of the alveoli, and so in rendering lobar pneumonia the prevailing form in adult life. There is an interesting suggestion as to the mechanism of the crisis in lobar pneumonia; the invading pneumococci are practically destroyed by the fifth day of the disease, and then the liberation of endotoxin, which is responsible for the general symptoms, comes to an end, and as soon as this endotoxin is neutralized, a process apparently occupying about forty-eight hours, the crisis follows, usually on the seventh day. Miliary pneumonia, due to infection of the alveoli by pneumococci reaching the lungs by the blood stream, is described and shown in a figure; this blood-borne infection spreads from the capillaries directly into the air vesicles, and the bronchioles either escape or are affected only by secondary extension. An absence of polymorphonuclear exudate is characteristic of this lesion, which is widely spread through the lungs, is merely part of a general septicaemia, runs a very rapid course, and is almost confined to young children; it is analogous to generalized miliary tuberculosis, and it is suggested that the pulmonary changes in pneumonic plague are also of this nature. The third method by which pneumococcic infection is spread in the lung is by way of the lymphatics, either from existing areas of infected lung or from the bronchi; this process, analogous to the spread of chronic pulmonary tuberculosis, is slow, and accounts for some cases of chronic and relapsing pneumonia.—*Editorial, British Med. Jour.*

Orthostatic Albuminuria

Saito (*Amer. Journ. Dis. of Children*, October, 1921), from a study of forty-four cases showing moderate or severe degrees of orthostatic albuminuria, concludes that such patients have an asthenic constitution. Lordosis of the lumbar spine was present in about half the cases, but tuberculosis and syphilis have no etiological bearing on the condition. The large majority showed a state of vagotonia, their renal function, as measured by the phenolsulphonephthalein test, being generally normal. Although anaemic, nearly all have a normal haemoglobin content, frequently an eosinophilia, and occasionally leucocytosis. The amount of the precipitate on the addition of acetic acid to the urine was found to vary absolutely or relatively even in the same individual, and the albumin quotient of the proteins was equal to that of the serum and of the cerebro-spinal fluid. Two diagnostic methods most reliable for the provocation of albuminuria are for the patient (1) to hold a rod with both hands extended forwards at the level of the shoulders for ten minutes, and (2) to kneel down for ten minutes. Lordosis of the lumbar spine may be a direct cause of the condition, though this is not sufficient alone, vasomoter instability being a probable factor.

The Oxygen Treatment of Sluggish Wounds

"A few years ago," said a well-known New York practitioner of medicine the other day, "I was greatly worried by my inability to heal a sluggish wound of the forearm that refused to make any progress whatsoever.

"All manner of treatment had been employed, with only indifferent results. Finally, one day in turning over in my mind the measures that ought to be able to stimulate cellular activity, I happened to think of an article I had recently read in a scientific journal, describing the effect that an atmosphere containing an increased amount of oxygen had had on certain forms of low plant life. While it is known that many plants take up nitrogen and give off oxygen, it was shown in the experiments I vaguely recalled, that certain varieties, when kept in an atmosphere rich in oxygen, grew much more rapidly and luxuriantly.

"If oxygen would do this to one form of cell life, why would it not do likewise to the cells of the tissues of a wound?

"I immediately made an attempt to submit the wound above referred to, to an atmosphere of oxygen, but as can be easily imagined, the difficulties were so great that I became discouraged. Suddenly I happened to think of peroxide of hydrogen. I had used this early in cleansing the wound, and under its influence when applied in the usual way, the infection and pus had been cleared up promptly, leaving the tissue remarkably clean. The only trouble seemed to be an absence of any tendency to cell growth and tissue repair.

"It seemed to me that if I would find a non-irritating peroxide containing an unusually large volume of oxygen, and could apply this to the tissues of the wound in such a way that there would be a *maximum liberation of oxygen in the wound*, I might be able to stimulate the cell activity and growth to an effective degree.

"As for the peroxide of hydrogen, there was only one that met my requirements—and this was Dioxogen. The question of the method of use was more difficult. But finally it came to me that *if I sprayed the Dioxogen onto the wound surfaces*, I would thus bring the solution into more complete or perfect contact with the tissues, and thus liberate its oxygen more completely than would be possible in any other way.

"I accordingly applied the Dioxogen by means of an ordinary atomizer, taking pains to strike every part of the wound, and cover its entire surface with a spray of the solution. When this was done and gas liberation well under way, I covered the whole wound for a few minutes with a wet compress, to keep the oxygen as much as possible from too rapid diffusion.

"When effervescence had stopped to a noticeable

(Continued one leaf over)

Heat vs. Cold
IN PNEUMONIA

The application of cold packs to the thoracic wall as a remedial agent in the treatment of pneumonia is rapidly being discarded by practitioners.

The application of heat is again in favor and physicians in every part of the country are now convinced that the logical, safe, and sane method of treating pneumonia includes the application of prolonged moist heat over the entire thoracic wall.

Antiphlogistine

not only offers the best known method of continuously applying moist heat of equable temperature for a long period, together with the advantages attendant upon its physical properties, hygroscopy, exomosis and endosmosis, but it offers the pneumonic patient exactly what he absolutely requires—EASE and REST. When Antiphlogistine is once applied it can advantageously remain in place for a long period, usually from twelve to twenty-four hours, all the time perfoming its soothing and effective service.

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Has it ever occurred to you

that your **"run-down" patients** who are tired all the time, whose oxidation and elimination are slow, temperature subnormal and blood-pressure low, especially in cases following an attack of grippe, pneumonia or even a bad cold,

are suffering from hypoadrenia?

You can modify these common symptoms by supporting the adrenals.

ADRENO-SPERMIN CO. (Harrower)

is a splendid remedy in such cases (Sig: 1, q.i.d. at meals and bedtime). This pluriglandular formula is effective because it contains the missing internal secretions from the thyroid and adrenals, plus spermin (the musculo-tonic principle from the gonads).

The excipient is calcium glycerophosphate—an accepted "nerve reconstructant." It is a physiologic "pep-producer" and, figuratively speaking, "it helps to burn up the carbon in the cylinders."

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extent, I again thoroughly sprayed the wound surfaces, and covered as before. I did this several times, the whole taking twenty or more minutes. Then I gently irrigated the wound with normal salt solution, and dressed as usual.

"This treatment was carried out each day. After the third day, the effect on the healing and reparative process was very striking. Two weeks and three days from the first use of Dioxogen by spraying, the wound that had worried me for over four months was entirely healed.

"Since this case I have used Dioxogen many times in the manner described, and the results I have uniformly obtained convince me that the method is one of very great value for stimulating cell growth and hastening the reparative process in slow-healing wounds.

"I usually dilute the Dioxogen, one part to two or three of normal salt solution, but often use it as above described in full strength."

Eneuresis

Eneuresis is more common in active, energetic children, who by night time give evidence of neuromuscular fatigue. The cure of these cases depends on detailed management, which includes rest, diet, bladder control exercises, psychic impressions and, in certain intractable cases, mechanical irritation of the sphincter. Having removed possible physical causes, such as phimosis or adenoids, the physician must acquaint himself with the details of the child's life, so that fatigue and excessive nerve stimulation may be avoided. Meats, meat soups, tea, coffee, pastry and all highly seasoned foods should be avoided. A two-day rest cure is often beneficial, requiring that the child have his breakfast in bed, and he is not allowed out of bed until lunch time. Such a plan followed for two days each week, at the beginning and the end of the week often helps a great deal. The child should have a dry supper with as little liquid as possible after 4 p. m., and there should be no strenuous play in the afternoon. He is put to bed one hour after his supper and is taken up to urinate when the parents retire. During the day the child is required to urinate and to stop at the word of command. This teaches the higher centers to control the act. These control exercises are done at least three times a day in the presence of an attendant. The patient is given a report card, which is filled out every morning, indicating whether the bed was wet or dry and the number of times the control exercises were done. Young children who have not learned to write may affix a gold star for a dry bed and a red star for a wet one. These reports, which are mailed to the physician, make a deep impression and are extremely valuable adjuncts in the cure.—Hill, in *Amer. Jour. of Diseases of Children.*

Health Insurance

Mayor Wm. T. Ramsey is chairman of the commission appointed by Governor Sproul to study compulsory health insurance, and spent several months in England as the official representative of that commission. He found some good and some bad in the law as operated there, and came to the conclusion that the English law will not work in America. The members of the commission have studied their task carefully and seriously, and have interviewed all who are interested in compulsory health insurance, including the members of our profession. It is realized that health insurance cannot be successful without the co-operation of the physicians, and it is considered important to properly compensate them for their services. The panel system in operation in England could not be adopted here in justice to the physicians. The latest scheme, embodied in a bill now before the New York Legislature, provides that the sick employee be allowed to select his own physician. The State compensates the patient, who in turn pays the physician at the rate charged patients in his private practice. This would relieve the physician from the humiliation of being compelled to do cheap work and the resulting temptation to do this work in a hurried and careless manner, a charge to which the English panel physicians have frequently been subjected. According to Mayor Ramsey, there will be no compulsory health insurance in Pennsylvania for some time, for he assured us that no bill will be presented to the present Legislature. He believes that it will eventually come, and this is probably true, so it is necessary for us to be constantly alert in these days of socialistic tendencies. We will not be caught napping, as we were when the Workmen's Compensation Law was enacted.—C. I. S., *Berks Co. Med. Society.*

Information Wanted

This caption might also be written with a question mark, that is, "Do you want information?"

It is a fact, admitted by most of us, that little can be accomplished without organization and co-operation. There was founded, some ten years ago, an association of which we have heard very little but which has accomplished much for the doctor who, in the legitimate practice of his profession, has had to fight inimical legislation on the one hand, and the invasion of an army of drugless healers on the other. In the face of countless obstacles, the doctor has held his own, but he is still fighting for the privileges and prestige to which he is entitled.

The organization we refer to is not a medical society; yet its interests are all with the medical profession. We refer to the American Pharmaceutical Manufacturers' Association, founded ten years ago.

The medical profession can hardly realize the vast amount of good this association has accomplished in fighting legislation, both national and local, which was unjust to physicians and destructive to the growth of better pharmaceutical methods. In addition to the effective legislative work in defense of the doctors' rights, much has been accomplished in the way of laboratory efficiency, better manufacturing methods, and the elimination of waste, all of which has indirectly benefited the doctor in his combat against disease.

There are other larger organizations which have been active in the medical field. The doctor is acquainted with these and with their work, however, there is an opportunity for the physician to become better acquainted with the American Pharmaceutical Manufacturers' Association, and to make use of its various committees. In turn, the association wants information from individual doctors as to the problems which confronts them in their local fields, as well as from the medical profession as a whole.

If you are cognizant of any legislation pending in your state which, in your opinion, does not give the doctor a square deal, it will pay you to pass the information on to the American Pharmaceutical Manufacturers' Association. If there is any information that you desire in the field of manufacturing pharmacy, you will be served efficiently on request. If you have any suggestions to offer, they will be gladly received and promptly attended to at the headquarters of the association, 32 Liberty St., New York City.

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Book Reviews

Tropical Ophthalmology

By Robert Henry Elliot, Sc.D., M.D., F.R.C.S., Lieut.-Col. I.M.S., Late Supt. Government Ophthalmic Hospital, Madras; Lecturer in Ophthalmology, London School of Tropical Medicine, etc. Cloth, 525 pages, freely illustrated. Oxford University Press, London. Price, $12.50.

This is the sixth work on ophthalmic subjects by this talented observer and writer, who markedly possesses the rare gift of injecting human interest into technical subjects. The present work is a charming one, alike for the scientific simplicity of the clinical treatment of the subject and the intimate description of social, climatic, sanitary and pathologic conditions met with in the tropics. Really the book is a treatise on tropical medicine and sanitation as related to ophthalmology, most enlightening and a worthy presentation primarily of interest to the physician in tropical environment, but possessed of great value and interest to physicians in temperate regions.

So far as we know, this is the first work on tropical ophthalmology; it is based on a long experience, and we know of no other book so thoroughly stimulating to the young physician who aspires to missionary or other work in tropical lands, although it is not written from the missionary's point of view. Technically, the text is accurate and it presents conservative and well digested views on ophthalmology. The reviewer wishes especially to commend it to the favorable attention of the American profession.—T. S. B.

Injuries to Joints

By Col. Sir Robert Jones. Second Edition. Second Impression. London: Oxford University Press, 1920. Price, $2.00.

This very instructive little volume is one of the Oxford War Primers. It is from the pen of Sir Robert Jones, the eminent orthopedist. It presents in small compass a concise, yet thorough, presentation of the diagnosis and treatment of injuries of joints, and is intended primarily for the military surgeon. There are a number of illustrations in the text which are quite helpful. The manual is excellent and up-to-date.

Pharmaceutical Botany

By Heber W. Youngken, A.M., M.S., Ph.M., Ph.D., Professor of Botany and Pharmacognosy and Director of the Microscopical Laboratories in the Philadelphia College of Pharmacy and Science. Third edition, cloth, 479 pages, 238 illustrations and a Glossary of Botanical Terms. P. Blakiston's Son & Co., 1012 Walnut St., Phila. Price, $3.75 net.

(Book Reviews continued one leaf over)

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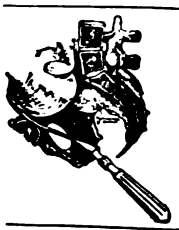
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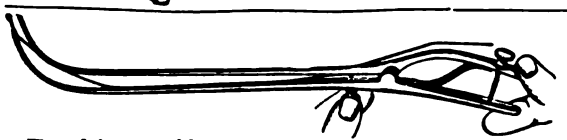


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Clinical Methods

A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., F.R.C.P., London, and Harry Rainy, M.D., F.R.C.P., F.R.S.E., Edinburgh. With 16 color plates and 157 figures in the text. Seventh edition, revised throughout. New York: Paul B. Hoeber, 1921. Price, $4.50.

This excellent and practical manual is too well known to require introduction. Since its appearance in 1897 it has enjoyed a well-deserved popularity among students and practitioners alike. The present edition has been thoroughly revised and alterations made in keeping with the progress of knowledge. Additions have been made to the chapters dealing with the examination of the heart and of the urine. The book should find a place on the desk of every practitioner.

Diabetes

A Handbook for Physicians and Their Patients. By Philip Horowitz, M.D. With twenty-seven text illustrations and two colored plates. New York: Paul B. Hoeber. Price, $2.00.

This little book is designed to enlighten the patient so as to co-operate with his physician on a more intelligent basis. The keynote to success in the treatment of diabetes, according to the author, lies in scientific accuracy in the dietary and its adjustment to the patient's idiosyncrasy. He advances the theory of intestinal toxemia as the underlying cause of weakened pancreatic function and outlines his treatment on this supposition. The menus, recipes and tables are from the author's own practice. Curiously no mention is made of the Allen treatment.

Physical Diagnosis

By W. D. Rose, M.D., Lecturer on Physical Diagnosis and Associate Professor of Medicine in the University of Arknasas. Second Edition. Three hundred nine illustrations. St. Louis: C. V. Mosby Company, 1921. Price, $8.50.

Dr. Rose has carefully revised his successful book, incorporating all worth while advances in the subject. The author informs us in his preface that "the clinical anatomy of the various thoracic and abdominal organs has been carried a step further in this edition, and

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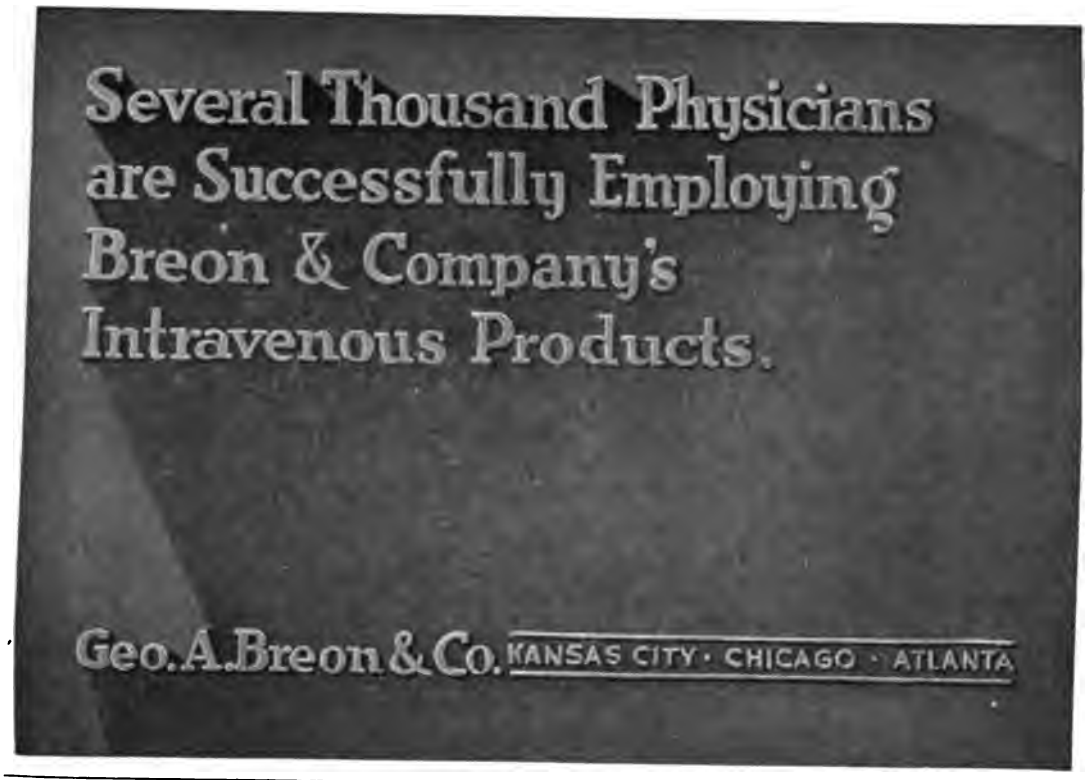
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the intimate correlation of anatomy, pathology, and physical signs has been emphasized throughout the text. Additional space has likewise been allotted in the present edition to the physical principles underlying the various physical signs which are generated within the thorax and abdomen in health and in disease." This excellent book will receive from students and practitioners alike the appreciation accorded the preceding edition.

Surgical Aspects of Dysentery

Including Liver-Abscess. By Zachary Cope, B.A., M.D., M.S., F.R.C.S. London: Oxford University Press, 1920. Price, $5.00.

This book deals with a subject which, outside of tropical countries, is not studied sufficiently in proportion to its importance. Dysentery in epidemic form has from time immemorial been an inseparable adjunct to every big military campaign. Surgical complications are infrequent in dysentery, but when they do occur they are apt to be acute and tax the surgeon's resources to the utmost. The material contained in this monograph is based on the author's extensive experience in the Mesopotamian campaign of the late war, together with information gathered from other sources. The text is elucidated by several colored plates and a number of diagrams and charts. A list of references is appended.

Salvarsan Adulterators Receive Prison Sentences

The Salvarsan adulterations in Germany and other countries, which caused so much difficulty in the drug markets during 1919 and 1920, were recently taken up by the Criminal Court of the County of Hamburg. After a trial lasting fourteen days, in which many experts were examined, the manufacturer, Gerloff, and his superintendent, Von der Heyde, were sentenced to three and one-half years in prison and to five years disenfranchisement. Sixteen defendants received two-year prison sentences each, and sixty-two others who had conducted a flourishing business in adulterated Salvarsan were fined 20,000 marks. Six persons were acquitted.

Those convicted of adulteration had manufactured and sold a yellow powder from substances which were not only worthless, but dangerous to health. It bore a striking resemblance to the genuine Salvarsan, and the labels and packing were so perfect an imitation of the genuine Hoechst product that it could easily be mistaken for the genuine even by physicians. The convicted men made a large amount of money by handling these adulterated products, as they were selling this stuff at a time when raw materials were scarce and the entire world was crying for the genuine German product, and it was easy to find purchasers.

The judge in his charge to the jury condemned the unscrupulousness by which the defendants had endangered the lives of their fellow-men for the sake of greed, and he asserted that the good name of the German industry had been injured. He felt that another grievous factor in these adulterations was that the idea had gotten abroad that German manufacturers were attempting to sell poisonous medicines for ulterior purposes and such charges had appeared in foreign newspapers. The severe punishment inflicted upon those convicted will, it is believed, put an end to further adulterations of Salvarsan and will discourage possible repetitions.

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(Helpful Points continued one leaf over.)

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"When I ask a doctor if he has a satisfactory remedy for whooping cough, the answer is almost invariably and emphatically *No.* Hence, I have no trouble to interest him in Creo-Tussin, which I know does afford relief in a large per cent of cases," writes one of the detail men of The Maltbie Chemical Company.

If you are not familiar with Creo-Tussin it is made easy for you, this month, to receive liberal sample and interesting literature free. Turn to page 63 and send in the coupon today.

An Effective and Prompt Sedative

Valamin is a dependable sedative and analeptic and is an absolute essential to the medical practitioner.

Opportunities for the employment of such a drug are countless. Valerian was for generations of physicians a widely used galenical for the various conditions demanding sedative effect, but gradually it fell into disuse on account of its failure, through its apparent lack of therapeutic merit, to give results.

Valamin, a recently discovered medicinal agent, is likely to restore Valerian to popular favor with the medical profession, for Valamin contains the necessary elements lacking in Valerian itself.

The therapeutic action of Valamin is due to the combined actions of Amylene Hydrate and Iso Valeric Acid. The essential point, however, is the fact that much less Valamin, and consequently much less Amylene Hydrate, is needed in this combination than when Amylene is used alone.

Experiments with Valamin have demonstrated that it produces specific effects, which are not produced by its individual components—effects which do not belong *a priori* to the therapy of Amylene Hydrate and Iso Valeric Acid.

Interesting information and literature will be sent to AMERICAN PHYSICIAN readers on request. Address: Kirbach, Inc., *227-229* Fulton street, New York City.

Nujol to Combat Intestinal Stasis

Effectual elimination of toxic matter—a problem which medical science has wrestled with since the days of Hippocrates and Galen—appears in a fair way to be disposed of with the discovery of such agencies as liquid petrolatum. Many physicians of international repute advise it extensively. Dr. J. H. Kellogg, in his book, "Colon Hygiene," is an enthusiastic advocate of its use for ridding the body of intestinal poisons. He says: "The use of liquid petrolatum affords an effective means of hindering the absorption of intestinal toxins and conveying them out of the body."

The use of Nujol is widely advised because of its established purity and correct viscosity. In determining its viscosity many consistencies were tried, ranging from a watery solution to a stiff jelly. Clinical test and research proved the consistency now used in Nujol to be the correct one.

The manufacturers of Nujol have adopted many methods for insuring a continual maintenance of the quality of their product. One of these is the final chemical test. After all the processes of refining are completed, the petrolatum is held in glass-lined tanks. Here, as a last precaution, expert chemists take a sample for analysis. When the results of this test show that the high standard set for Nujol is met, the order for bottling is given.

Interesting booklets and sample will be sent to physicians on request; turn to page 71 and send in the coupon.

(Helpful Points continued, one leaf over)



COMBINES the delightful qualities of effervescence with the well-known digestive properties of Peptenzyme.

The powerful and effective action of Peptenzyme, supplemented with the tonic and refreshing effects of effervescence, thus insures both

PERMANENT BENEFIT AND PROMPT RELIEF

in gastralgia, nervous and fermentative dyspepsia, flatulence, atonic indigestion, and to relieve the gaseous fermentation that usually causes so much discomfort in digestive disorders.

It is palatable to the nth degree and gives the physician a cooling and refreshing beverage, free from any hint of medicine, yet pregnant with therapeutic value.

Converts the Distresses of Indigestion into a Smile

SOMETHING NEW

PEPTENZYME EFFERVESCENT GRANULES

REED & CARNRICK
JERSEY CITY, N.J.

Benzylets —

in gall-stone and other colics:
in spasmodic dysmenorrhea:
in true asthma, neuritis, whooping cough—
in short, in most pathologic conditions
where opium was formerly used.

BENZYLETS

Sharp & Dohme
Sole Makers

the non-narcotic analgesic-antispasmodic:—at pharmacies in boxes of 24 gelatin globules, each of 5 min. medicinally pure benzyl-benzoate.

"The Wonder Remedy of the Age"

Radium Capsules

For Internal Administration

The physicians who have employed **radio-activity** in the form of our RADIUM CAPSULES are enthusiastic over the remarkable results secured through their use. There are ample proofs for **knowing** that the radium emanations are incorporated in these Capsules. The photographic plate and electroscope, as well as the highly favorable clinical results, **prove it.** Convenient and accurate for internal administration. No possible harm can come from over-dosage.

Therapeutic Indications.—Gout, Rheumatism, Neuralgia, Eczema, Acne, Pruritus, Psoriasis, Glandular Enlargements, Chronic Ulcers, Arterio-Sclerosis, Nephritis, Diabetes, Menstrual Disorders, Neurasthenia, Impotence, Pre-Senility.

EXPERIENCED CLINICIANS have demonstrated the following therapeutic facts by administering Radium internally: Elimination of Carbon Dioxide and Uric Acid—marked increase of the red blood corpuscles and hemoglobin—Constant improvement of metabolic changes—Arthritis, Gout, Sciatica, Myalgia, promptly relieved—Pain in general yields quickly—Increases the quantity of urine—Regulates all glandular activity—It has proved a powerful aphrodisiac—It is a remarkably effective and harmless TONIC for the aged and infirm—In chronic skin affections its results are often but little short of wonderful—It lowers blood pressure, through its influence on the vasomotor nerves.

RADIUM CAPSULES are supplied at $2 per hundred or $15 for one thousand. Guaranteed radio-activity. Containers protected by heavy X-Ray Lead Foil.

SO YOU MAY CONVINCE YOURSELF by a thorough clinical test, Doctor, accept our INTRODUCTORY OFFER of $10 worth of these Capsules for only $5.

Regent Drug Company, Detroit

MAIL THIS COUPON TODAY

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Eliot Station, Detroit, Mich.

For the enclosed $5, send me at once, postpaid, insured, five hundred RADIUM CAPSULES, with complete directions, as per your special introductory offer in THE AMERICAN PHYSICIAN.

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FIRST ON YOUR LIST OF WINTER TONICS



PRUNES do not possess or profess any miraculous "pick-me-up" qualities. At the same time they offer one of the best body-building "tonics" you can prescribe for any case—convalescent or chronic.

You have always known, in a general way, that prunes belong to the "iron group." But have you ever realized just *how much* iron and mineral matter this fruit-food furnishes?

Nor is this all! Sunsweet Prunes not only are rich in assimilable iron—but their natural fruit sugars offer the invalid a quick source of energy. There is no tax on the digestion. No elaborate process of sugar-conversion is necessary.

Then, too, there is the traditional laxative quality of prunes—a quality made doubly effective in Sunsweet Prunes. And, on top of this, are the experiments of Osborne and Mendel which prove prunes to be a source of water-soluble vitamine. Frankly, doctor, can you find a better, ready-to-put-up tonic than this in all of Nature's Materia Medica?

To any physician, dietitian, or nurse we will gladly send our health-brochure "For the good that's in them." Also our new Recipe Packet—"Sunsweet Surprises for 1922." Both are free! California Prune & Apricot Growers Inc., 160 Market Street, San Jose, California

SUNSWEET
CALIFORNIA'S NATURE-FLAVORED
Prunes

Feeding Poorly Nourished Infants

In extreme emaciation, which is a characteristic symptom of conditions commonly known as malnutrition, marasmus or atrophy, it is difficult to give fat in sufficient amounts to satisfy the nutritive needs. It is, therefore, necessary to meet this emergency by substituting some other energy-giving food element.

Carbohydrates in the form of maltose and dextrins in the proportion that is found in Mellin's Food are especially adapted to the requirements, for such carbohydrates are readily assimilated and at once furnish heat and energy so greatly needed by these poorly nourished infants.

The method of preparing the diet and suggestions for meeting individual conditions will be sent to AMERICAN PHYSICIAN readers, gladly, on request; address: Mellin's Food Company, Boston, Mass.

Make a Personal Test of This

You can prescribe Kellogg's Bran with confident expectations of results. Kellogg's Bran, cooked and crumbled, is nature's health food; you not only get the regulatory benefits, but also an actually delicious food.

The best way to prove this is to make a personal test of Kellogg's Bran—you will find it entirely different from common brans. Just drop a card to Kellogg Toasted Corn Flake Co., Battle Creek, Mich., and large package will be sent to you.

Another Light on Constipation

When the lumen of the alimentary canal is contracted by adherent fecal material, it is interesting to note that the patient, while having a daily movement of the bowels, yet suffers from constipation, auto-intoxication and intestinal absorption. The entire thirty-six feet of bowel surface may be coated with dried and hardened feces and toxins constantly taken up by the system.

In treating such cases, McKesson & Robbins Liquid Albolene (genuine Russian oil) is used to lubricate the mass and loosen it from its point of contact.

A particularly helpful and instructive booklet, "Below the Equator," will be sent to AMERICAN PHYSICIAN readers on request, address: McKesson & Robbins, Inc., New York City.

DOCTOR: Write Us—

FRACTURES

Hip, Thigh or Leg Set. Splints Rented Ready to Apply. Patients pay $35.00 for 2 months or less. Your treatment with the AMBULATORY PNEUMATIC SPLINT, in or out of bed, secures good bone union, comfort, strength and health in the least possible time. To order: State sex of patient; fracture; which limb; length perineum to heel; circumference of chest; hips; and thigh at perineum. Wire and mail orders expressed on receipt, adjusted to fit, with complete directions for application. Specify our Splint and our AMBUMATIC WASHABLE ABDOMINAL



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Endocrine Derangements
and
Functional Unbalance of the Ductless Glands

Endocrine products have largely replaced other medication in the many conditions now known to be due to functional impairment and unbalance of the ductless glands.
Attention is particularly called to the following perfected pluriglandular formula.
Prosto-Orchoid Compound (Mayson) is the most successful pluriglandular remedy for the treatment of Impotence, Sexual Neurasthenia, Prostatic Disorders, Hypertrophied Prostate, with Bladder Irritation, and Prostatorrhea.
Prosto-Orchoid Compound (Mayson) contains prostate, orchic extract, lymph glands, with nuclein in suitable proportions. The synegistic relations of the prostate and orchic glands are perhaps more pronounced than those of any other two glands in the body, and physicians are obtaining the most gratifying clinical results by the use of this remedy. Cases are reported in which the need of catheterization with its attendant danger of infection was avoided by the persistent use of this formula..
Prosto-Orchoid Compound (Mayson) is indicated and has been used with success in Chronic Prostatitis, Senility, and after Prostatectomy. *It is a most valuable Genito-Urinary tonic.*

Try it in your stubborn cases
Package of 100 tablets in sanitary glass vials, $3.50

Booklet containing list of perfected pluriglandular formulas, therapeutic uses, etc., free.

The Mayson Laboratory
5 S. Wabash Avenue **Chicago, Ill.**

BENZOMINT
An Internal Remedy For TONSILLITIS

Compound of Sodium Benzoate With Alkaloids of Calisaya

A highly therapeutic formula compounded of the best drugs known to Medical Science for the treatment of Tonsillitis.

Benzomint is antiseptic and antipyretic. It acts both locally and systemically in reducing inflammation and congestion, in rebuilding strength and quickly relieving all constitutional symptoms.

Benzomint has a Clinical History covering many years of consistently successful treatments.

GLYCODIN

An Efficacious astringent and antiseptic gargle of great value in the treatment of Tonsillitis.

Put up for Dispensing use in Pint, 5 Pint and Gallon containers

Send for Samples and literature

THROAT SPECIALTIES LABORATORIES
(MILBURN PHARMACAL COMPANY, INC.)

BALDWIN, L. I. **NEW YORK**

GUIOLEUM

10 Per Cent. Electrolytic Iodine in Oil

An Effective Remedy in

Gonorrhea

5 cc. of Guioleum should be introduced into the urethra daily by means of an ordinary urethral syringe and retained five to ten minutes



PRICES:
1 ounce package $2.50
4 ounce package $8.00
Literature Upon Request

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Doctor. Notice the formula of RHEUME OLUM



(RU-ME-OLUM) composed of over 40% by weight of the most powerful Anodyne. Rubifacient, and Antiphlogistic drugs, for external application, put up in collapsible tubes, strictly ethical and dispensed by your druggist on your prescription only.

FORMULA:—

Methyl Sylicylate 25%
Camphor. Menthol.
Oleo Resin Capsicum
Oil of Cajuput
Lanolin QS.

The large percentage of Methyl Salicylate makes it almost a Specific for Rheumatism, Lumbago, Sprain Painful Swellings and Joints, and as a counter irritant in Pneumonia Influenza, Bronchitis, etc.

Supplied through your druggist, or direct from us upon receipt of price, $7.00 per dozen.

RHEUMEOLUM CHEMICAL CO., Inc.
SEATTLE, WASH.

They Produce Results

Not sporadic instances, but hundreds of authentic reports of cases treated with Proteogens received from reputable physicians prove the value of these remedies.

Their use in the treatment of various diseases is based on the fact that they have the power of stimulating cytogenic mechanism of the body. Such stimulation brings about a correction of disturbed metabolism, neutralizing and ridding the system of the disease-producing toxins or bacteria, and thus removing the underlying cause.

Address a card today to The Wm. S. Merrell Co., Cincinnati, Ohio, and they will mail AMERICAN PHYSICIAN readers *two* booklets, "General Booklet on Proteogen Therapy" and a "Special Booklet on the Use of Proteogens in Various Diseases."

A Pluriglandular Prescription

Orcho-Lymph Compound (Mayson) contains the sexual hormones with adrenal (total), lymph glands, lecithin (from brain and spinal cord), glycerophosphates and ext. nux vomica, gr. 1/10 to the dose. This has been found to be a powerful physiologic tonic and reconstructant for the treatment of asthenia, neurasthenia, senility and presenility. In impotence many physicians consider Orcho-Lymph Compound a specific. Box of 100 tablets (in five sealed glass tubes of twenty each), $2.50.

Reference booklet containing formulas, etc., will be sent to AMERICAN PHYSICIAN readers free. Address: The Mayson Laboratory, 5 South Wabash Avenue, Chicago, Ill.

Therapeutic Power of Penetrative Light

The Sterling Therapeutic Lamp has been found of distinct value in the microbic skin diseases, such as acne, furunculosis, erysipelas, tinea sycosis and similar infections.

Heat waves bring pure arterial blood to the part and take away the venous blood by dilating the smaller vessels in the periphery. The main action of the lamp, however, in germ or microbic diseases, is, that the germs cannot live in light. The penetrating effect of the 2000 c. p. lamp is fatal to most germs in ten minutes' time.

Illustrated booklet and interesting literature will be sent to AMERICAN PHYSICIAN readers, address: Sterling Therapeutic Lamp Co., 546 Garfield Avenue, Desk 203, Chicago, Ill.

A Danger Signal

The real significance and treatment of high blood pressure should be studied and understood by every physician. Hypertension is always a danger signal. You will be interested in the booklet: "High Blood Pressure: How to Interpret and Treat It," which will be sent free on request to: The Drug Products Co., Inc., 150 Meadow Street, Long Island City, N. Y.

This company is making a special offer to physicians this month of Pulvoids Natrium Compound (High Tension Dr. M. C. Thrush)—one time only: 200 Pulvoids for $1.00 or 1000 Pulvoids for $5.00, on sixty days' trial; money back if not satisfied.

A special feature of Pulvoids Natrium Compound (High Tension Dr. M. C. Thrush)—the composition is given in this month's advertisement, page 65—is the special (green colored) sugar coating, to dissolve in intestinal tract and avoid gastric disturbance. Write for booklet and special offer quantity today.

(Helpful Points continued one leaf over)



Presbyterian Hospital
New York

Intestinal Stasis and Lubrication

"Liquid petrolatum in a large number of cases gives most excellent results, and so far as we know, may be used indefinitely and in large amounts. Its results are particularly gratifying in the dry or rectal types of stasis."

Harold Barclay, M. D., Attending Physician, Knickerbocker Hospital, New York, and C. A. McWilliams, M. D., Presbyterian Hospital, New York.

NUJOL, the quality liquid petrolatum, is highly effective in the majority of cases of intestinal stasis. It thoroughly permeates and lubricates the faeces, assisting normal peristalsis.

Nujol is scientifically adapted by both viscosity and specific gravity to the physiology of the human intestines. In determining a viscosity best adapted to general requirements, the makers of Nujol tried consistencies ranging from a water-like fluid to a jelly. The viscosity of Nujol was fixed upon after exhaustive clinical test and research and is in accord with the highest medical opinion.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis. See coupon below.

Nujol

REG. U.S. PAT. OFF.

A Lubricant, not a Laxative

Nujol Laboratories, Standard Oil Co. (New Jersey),
Room 765, 44 Beaver Street, New York.

Please send booklets marked:

☐ "In General Practice" ☐ "In Women and Children"
☐ "A Surgical Assistant" ☐ Also sample.

Name .....

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TYPEWRITER SENSATION

Free Trial—Use as You Pay

After trial send us only $5.00 a month until the low total price of $59.85 is paid, and the machine is yours. This is absolutely the most generous typewriter offer we ever made. Do not rent a machine when you can pay $5.00 a month and own one. Think of it—Buying a $100.00 Machine for $59.85. Cash price $54.00, just a little more than half its original price.

L. C. SMITH No. 5 WITH SPECIAL MEDICAL KEYBOARD

Perfect machines, Correspondence size, Keyboard of Standard Universal arrangement, 38 Keys, writing 76 characters, with four medical characters and special paper holders for writing cards and prescriptions. The entire line of writing completely visible at all times, has the tabulator, the two color ribbon, with automatic reverse, the back spacer, ball bearing type bars, ball bearing carriage action, ball bearing shift action, in fact, every late style feature and modern operating convenience. Comes to you with everything complete; tools, cover, operating book and instructions—nothing extra to buy.

You cannot imagine the perfection of this beautiful reconstructed typewriter until you have seen it. We have sold thousands of these perfect late style machines at this bargain price and every one of these thousands of satisfied customers had this beautiful, strictly up-to-date machine on five days' free trial before deciding to buy it. We will send it to you F. O. B. Chicago for five days' free trial. It will sell itself, but if you are not satisfied that this is the greatest typewriter you ever saw, you can return it at our expense. You won't want to return it after you try it, for we are sure you cannot equal this wonderful value anywhere.

SEND NO MONEY **$4.85** **AFTER TRIAL**

Put in Your Order NOW

When the typewriter arrives deposit with the express agent $4.85 and take the machine for five days' trial. If you are convinced that it is the best typewriter you ever saw keep it and send us $5.00 a month until our bargain price of $59.85 is paid. If you don't want it, return it to the express agent, receive your $4.85 and return the machine. We will pay the return express charges. This machine is guaranteed just as if you paid $100.00 for it. It is standard. Over half a million people own and use these typewriters and think them the best ever manufactured. The supply at this price is limited, the price will probably be raised when next advertisement appears, so don't delay. Fill in the coupon to-day—the typewriter will be shipped promptly. There is no red tape. We employ no solicitors—no collectors—no chattel mortgage. It is simply understood that we retain title to the machine until full $59.85 is paid. You cannot lose. You will perhaps never have a greater typewriter opportunity. Do not send us one cent. Get the coupon in the mails to-day—sure.

SMITH TYPEWRITER SALES CO.
Dept. 180, 218 N. Wells St., Chicago

Smith Typewriter Sales Co., Dept 180, 218 N. Wells St., Chicago
Ship me the L. C. Smith Typewriter, F. O. B. Chicago, as described in this advertisement. I will pay you $5.00 monthly as rent until the $55.00 balance of the SPECIAL $59.85 sale price is paid. The title to remain in you until fully paid for. It is understood that I have five days in which to examine and try the typewriter. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee.

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A Fruit Food and Therapeutic Aid

Prunes offer one of the best body-building "tonics" that you can prescribe for any case—convalescent or chronic.

Sunsweet Prunes are not only very rich in assimilable iron—but their natural fruit sugars offer the invalid a quick source of energy. Then, too, there is the traditional laxative quality of prunes—a quality made doubly effective in Sunsweet Prunes. Add to this the vitamine content and you have a fruit food and therapeutic aid that should not be overlooked.

You will be interested in the health-brochure, "For the Good That's In Them"—It will be sent free. Address California Prune and Apricot Growers, Inc., 180 Market Street, San Jose, California.

Merck's New Regent Catalog and Price List

Merck & Co. are distributing a new edition of their booklet, "Blue Label Reagents and Other Laboratory Chemicals." Merck's Blue Label Reagents, familiarly known as M.B.L., are made according to the requirements in "Standards and Tests for Reagent Chemicals," published in 1920 by D. Van Nostrand & Co., of New York, and a special feature of the new catalog is the concise summary under each reagent showing its standard of purity, methods of testing, and other data taken from that textbook with the author's permission. Such of Merck's "White Label" chemicals of H.P., "C.P.", and other grades as are of particular interest to laboratory workers are also listed and current prices are given throughout. The booklet, therefore, should be of interest to chemists generally as a manual and price list. AMERICAN PHYSICIAN readers may obtain copies by addressing Merck & Co., 45 Park Place, New York City.

Bromural an Effective Sedative

The sedative action of bromine, while unquestioned, is seriously militated against by certain collateral effects when given in the form of its inorganic alkaline salts, the bromides. They do not carry the halogen well. Such derivatives as Bromural are advisedly to be used in their stead, affording as they do the straight hypnotic and sedative effects wanted.

Bromural is one of the best of these organic bromine compounds and appears to be very satisfactory in cases of nervous insomnia and general nervousness. It is said to produce sleep without markedly affecting the circulation or respiration. In nervous and hysteric cases, especially affecting women, it brings calm and rest. But, like other hypnotics, it may fail where there is pain or cough; these symptoms must be subdued by other measures or adjuncts. The dose is five to ten grains. The advantage is claimed for it that, while quickly and decisively impressing the central nervous system, it does not stupify to the degree that other agents of this class are wont to do, nor leave that feeling of heaviness which after some hypnotics is quite distressing.

Samples and literature will be sent to AMERICAN PHYSICIAN readers on request. Address: E. Bilhuber, Inc., 45 John street, New York.

It Must Be Made Right from the Start

For a century or more, cod-liver oil has been recognized as a dependable and easily absorbed nutrient, and more recent investigations reveal that it is an exceedingly fruitful source of the anti-rachitic vitamines. Cod-liver oil to be utilized to fullest extent by the system should be pure and sweet and free from admixture with infer-

(Helpful Points continued one leaf over)

USOLINE
The ORIGINAL Russian Mineral Oil

USOLINE was the first mineral oil put on the market in this country. It has never been extensively advertised, and exaggerated claims have never been made for it, therefore physicians have been steadily and increasingly prescribing it for internal use year by year.

We again present to you USOLINE as a highly refined 100% imported Russian Mineral Oil, with properly adjusted gravity and viscosity; containing no sulphur or acid impurities, no bloom or fluorescence and no taste.

The consensus of opinion of eight leading clinicians favored Imported Russian Oil (see A. M. A. Journal, Vol. 64, p. 808).

For clinical test, a 6 oz. bottle of USOLINE will be sent you free. Write for it.

OIL PRODUCTS CO., Inc.
50 Union Square, New York, N. Y.

Rent This TYCOS Nine Months Then It's Yours



$2.50 Monthly Brings It

The new 1922 model celebrated Blood Pressure Apparatus, Dr. Rogers' Sphygmomanometer is very accurately made and registers both systolic and diastolic pressures. The cash price of the Tycos everywhere is $25.00. We will send it to you on receipt of only $2.50 and, if after ten days' trial, you wish to keep it, simply pay the balance—$22.50—the same as rent—in nine monthly payments of $2.50 each. You pay only the cash price (no interest—no extras) and have nine full months in which to make it pay for itself.

Leather Case and Booklet Free

With every Tycos is included **Free** a genuine morocco leather case. You can put your Tycos into this case and carry the entire instrument in your pocket. Besides the case, we give you **Free**, a 44-page booklet which explains accurately, thoroughly and plainly just how and why the Sphygmomanometer is essential to the intelligent practice of medicine.

Ten Days' Trial—Money Back

Send today. Just sign and mail the coupon below—enclose $2.50 for first month's rent and we will immediately send you the instrument and you will only have to pay $2.50 each month until the cash price, $25.00, is paid in full. Send that $2.50 today. Remember, we give ten days' trial and return your money if you are not satisfied. The price for all cash with order is just the same, $25.00.

SIGN AND MAIL COUPON

A. S. ALOE CO. Factory Distributors. 551 Olive St., St. Louis, Mo.

I enclose first payment, $2.50, for which send me Dr. Rogers' TYCOS and Outfit on ten days' trial as per your offer. I agree that the title is to remain in you until paid in full.

Name .....

Address .....

GONOSAN
"RIEDEL"

To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

RIEDEL & CO., Inc.
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PETTEY & WALLACE SANITARIUM
958 S. Fifth Street MEMPHIS, TENN.



FOR THE TREATMENT OF

Drug Addiction, Alcholism, Mental and Nervous Diseases

A quiet, home-like, private, high-class institution. Licensed. Strictly ethical. Complete equipment. Best accomodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method.

Detached building for mental patients.

Pluto Water



has been successfully employed and endorsed by the Medical Profession as a uric acid solvent and eliminating agent in renal disorders; prompt, safe and efficient and well retained by the most delicate stomach.



Many practitioners direct convalescent patients to the spring for rest and complete treatment.

French Lick Springs Hotel Co.
French Lick, Ind.

TAUROCOL
TABLETS
(TOROCOL)
TRADE MARK REG.

A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

FOR

Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS

(TOROCOL)

With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.
DETROIT, MICH

It Must be Made Right—cont'd

ior non-cod oils, and also free from admixture with blood and gall—due to careless and unscientific handling of the livers. Cod-liver oil is as delicate as butter and in the selection and processing of the livers should receive as much care as science has thrown around the production of pure milk. It must be made right from the start.

For nearly half a century the producers of the "S & B Process" Clear Norwegian Cod Liver Oil have concentrated their endeavors and specialized upon the product of livers of the true gadus morrhuae. Never satisfied with the quality of oils offered on the market, several years ago Scott & Bowne established their own cod-liver oil plants in Balstad (Lofoten), Norway, where under most exacting, modern scientific and hygienic conditions the "S & B Process" is produced. This high-grade oil is then brought overseas in special containers to be refined in the unique S & B laboratories in America. The "S & B Process" is the only cod-liver oil made in Norway and refined in America. This oil is guaranteed a 100 per cent. product of the livers of the true gadus morrhuae and absolutely free from admixture with other oils or impurities.

Physicians may prescribe the "S & B Process" with an assurance that his patient will always receive the nutrient and vitamic virtues of cod-liver oil in truest form. We are reliablv informed that liberal samples of this high-grade medicinal cod-liver oil will be sent to AMERICAN PHYSICIAN readers on request. Address, Scott & Bowne, Bloomfield, N. J.

The Most Effective Way

It is a very significant fact that nature has provided the most efficient and antiseptic means for taking care of mucous membranes by supplying the latter with secreting cells which furnish a solution which is in every way able to take care of ordinary and sometimes extraordinary conditions, provided such solution is of normal content.

Unfortunately, however, no provision could be made against over-stimulation of such cells which leads to their hyper-secretion, and as a necessary result, to modification in such secretions.

To attempt to substitute an artificial solution that exerts antiseptic action and effect in the test-tube is not the most rational or most effective way to overcome the difficulty. On the other hand, it is axiomatic that to feed exhausted cells and thus enable them to regain normal secretory ability, to overcome congestion, to avoid adding to the disturbances of osmotic balance is the best and the most natural way to overcome the difficulty.

This is why Alkalol is so successful when used upon mucous membranes. It is composed of physiological salts which have been very carefully selected with a view to meeting the needs of mucous membranes cells. Its salinity and alkalinity have been carefully worked out. Its tenicity is important. Alkalol is soothing and healing to a degree, and even a superficial trial of this preparation would convince the most skeptical medical man or specialist that it is worthy of a place in his armamentarium.

The number of alkalol users is great, but any physician who has not yet become acquainted with it may do so by writing for sample and literature to the Alkalol Company, Taunton, Mass.

(Helpful Points continued one leaf over.)

When A Baby Must Be Weaned

there is no food that can be used to replace its mother's milk, with greater convenience and benefit, or less trouble and danger, than

Nestlé's Milk Food



Made from pure cows' milk, malt, cane sugar and wheaten biscuit, Nestlé's Milk Food enables the painstaking physician to provide the infants under his care with a digestible and nourishing food that assures every advantage of properly modified milk, with gratifying avoidance of inconvenience or danger.

There is a constantly increasing number of physicians, therefore, who are finding in Nestlé's Milk Food, not only modified milk at its best, but a food that means "in weaning the baby," a new era of improved health and progressive bodily growth.

NESTLÉ'S FOOD COMPANY

112 Market Street, San Francisco — Nestlé Building, New York

The Peculiar Advantage of the

Marvel "Whirling Spray" Syringe



is that **The Marvel,** by its centrifugal action, **dilates and flushes** the vaginal passage with **a volume** of whirling fluid, which **smoothes** out the folds and permits **the injection** to come **in contact** with its entire **surface.**

Prominent physicians and gynecologists **everywhere** recommend the **MARVEL** Syringe in cases of Leucorrhea, **Vaginitis,** and other vaginal disease. **It always** gives satisfaction.

The Marvel Company was awarded the Gold Medal Diploma and Certificate of Approbation by the Societe D'Hygiene de France, at Paris, Oct. 9, 1902

All Druggists and Dealers in Surgical Instruments sell it. For literature, address

MARVEL COMPANY, 25 W. 45th Street, New York

A Campaign of Education No. 2

Government Inspection Discounted

If teeth are allowed to decay

THE United States Government spends huge sums every year to insure pure food products. This money is wasted if decayed or unclean teeth are allowed to contaminate the food.

Joseph Head, M.D., D.D.S., says: "Many fatal diseases will be reduced by 50% if the teeth are kept properly clean."



Dr. R. B. Waite's

ANTI-PY-O

Dental Cream

is antiseptic. It remedies bleeding and receding gums; checks pyorrhea. Its germicidal qualities reduce activity of dangerous mouth bacteria. Thus food contamination is prevented. Your patients need the neutralizing effects of ANTI-PY-O.

The Antidolor Mfg. Co.

ANTIDOLOR MFG. CO.,
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On receipt of your professional card we will send you special sample tubes of Dr. R. B. Waite's ANTI-PY-O Dental Cream, including a full size tube for your personal use.

Name_____

Address_____

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You Can Easily Own This

You can rent a Tycos, the new 1922 blood pressure apparatus, for nine months and then it is yours by means of the easy-payment plan of A. S. Aloe Co., 551 Olive Street, St. Louis, Mo. The price is $25.00. Enclose $2.50 with order for first month's rent and the instrument will be sent to you immediately, then $2.50 each month until the cash price, $25.00, is paid. The price is the same—$25.00—if all cash is sent with order. Money back if you are not entirely satisfied. Turn to page —— and send in the coupon. You will find this sphygmomanometer a great help in your practice.

Vitamines for the Sick

Why prescribe vitamines? an inquirer said the other day. The vegetable kingdom affords us an abundant supply. Why cannot we direct our patients to eat vegetables, butter or milk containing these all-important essential principles? To completely reply to those inquiries would involve the writing of a lengthy thesis. A few words will suffice to make a practical statement of the situation.

The majority of our population live in towns and cities, in institutions, on shipboard, and some in remote regions away from civilization. The dietary of these people during a great part of the year consists largely of canned and dried vegetables, bread, artificial butter, sterilized milk, etc. All of these products have been subjected to heating or other processes that impair or destroy the vitamines they may have contained originally.

Even in regions where fresh vegetables and fruits are obtainable it would not be practical to feed sick people on them. As the editor of a well-known medical periodical recently said: "It is frequently undesirable to

(Helpful Points continued one leaf over)

A Stand-By in Uterine Troubles

VIBURNO

(BEACH)

The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles
Sample and Formula on Request

THE VIBURNO COMPANY
116 Maiden Lane, New York

ALKALOL AIDS DISARMAMENT, BECAUSE INSTEAD OF DEPENDENCE UPON A QUESTIONABLE POWER TO DESTROY PATHOGENIC ORGANISMS, ALKALOL FEEDS THE CELLS WITH PHYSIOLOGICALLY NECESSARY SALTS, AND THUS HELPS THEM TO RECOVER NORMAL SECRETORY ACTIVITY AND SUPPLY THE BEST OF ALL ANTISEPTICS—WHICH IS THE **NORMAL** SECRETION OF THE NATURAL CELLS. MUCOUS MEMBRANE OR SKIN IRRITATION OR INFLAMMATION YIELD PROMPTLY TO ALKALOL. IT IS A STERLING PRODUCT OF MANY USES. NOT TO KNOW OR USE ALKALOL IS TO HANDICAP PROFESSIONAL EFFORT AND PREJUDICE THE PATIENT'S INTERESTS. TO KNOW ALKALOL—SEND FOR SAMPLE AND LITERATURE.

THE ALKALOL COMPANY TAUNTON, MASS.

RHINOL

in All Affections of the Nose and Throat

The Rhinol Company, Inc.,

Dear Sirs:

Permit me to state that we have used Rhinol at the Quality Hill Sanatorium with several of our patients that were suffering from Hayfever. The results were indeed good and pleasing. Will be glad to have you publish this statement for the benefit of the medical profession.

(Signed) J. S. MASSEY, M.D.,
Physician and Surgeon.

Quality Hill Sanatorium,
Monroe, N. C.

July 8, 1921.

The Rhinol Company, Inc.,

Gentlemen:

I want to inform you that during the last year I have treated a large number of patients suffering from Coryza, Chronic Rhinitis, Pharyngitis, Laryngitis and Hayfever with your Rhinol, and it gives me great pleasure to state that the results have been very satisfactory in each instance. Rhinol is one of my standbys in my practice and now that I have realized its great therapeutic value in the treatment of the above named conditions, I could not do without it. You may make any use of this letter in any way you may desire.

Sincerely yours,
(Signed) CHAS. B. GRAF, M.D.,
Physician and Surgeon.
230 E. 15th St., New York City.

The Rhinol Company, Inc.,

Gentlemen:

Enclosed please find check for three dollars for which send me one complete Rhinol outfit. You have a very superior preparation, and I was astounded at the quick results produced.

I am very much disappointed that you cannot or will not supply my druggist, Theo. Metcalf Co., as I would like to prescribe your outfit for some of my patients. I cleared up my own acute frontal sinusitis in a few days, then gave it to a hayfever patient who has been more relieved than by anything she has ever used. I dread being without the outfit for fear I may have another attack of sinusitis. Hoping for an outfit by return mail, I am, gratefully yours,

(Signed) JACOB D. SNYDER, M.D.

542 Boylston St., Boston, Mass.

Price Complete, $3.00—Refilled Packages, $2.50

RHINOL COMPANY, Inc. 1416 Broadway, New York

Sal Hepatica

THE STANDARD SALINE LAXATIVE



Samples on request

Bristol-Myers Co.
New York

GRIFFITH'S COMPOUND MIXTURE

of Guaiac, Stillingia, etc.

A Powerful Alterative — Composed of Guaiac, Stillingia, Prickly Ash, Turkey Corn, Colchicum, Black Cohosh, Sarsaparilla, Salicylates of the Alkalies, Iodide of Potassa and other well known remedies, combined in such a manner that it is tolerated by all patients suffering from Rheumatism, Gout, Lumbago, Neuralgia, Sciatica, etc.

Prescribe it for "That Stubborn Case"

To Physicians only—we will upon request, send a regular eight ounce bottle ($1.25 size), for trial, upon receipt of 25 cents for express charges.

Griffith's Rheumatic Remedy Company
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FUR-LINED OVERCOATS

Black wool kersey cloth, lined with beautiful dark brown marmot fur. Handsome marmot fur collar, double-breasted, full length, sizes 36 to 46 ready for immediate delivery. Your opportunity to secure a handsome garment at pre-war prices.

Price $42.50

Usually retailed at $75.00. Direct from manufacturer. You save all middlemen profit and take no risk.

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Examine and try on before paying. Write at once, stating chest measure, height and weight. Enclose $1.00 for express charges only and coat will be sent at once.

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NEW HOME TREATMENT

For all Drug and Alcoholic Addictions—Doctor: treat these cases at home privately yourself. No pain, very little discomfort. Sanitarium maintained for those who desire. Enclose stamp for full information.

DR. QUAYLE'S SANITARIUM
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Woodlawn Maternity Home

A strictly private and ethical Home Retreat for unmarried girls and women during pregnancy and confinement, with best medical care, nursing and protection. A home found for the infant by adoption if desired. All publicity avoided. Prices reasonable. For particulars, prices and terms, address
WOODLAWN, OWEGO, Tioga Co., N. Y.



(Vitamines continued from page 76)

give the kind and quantity of food which would be necessary to yield a sufficient amount of a desired vitamine. One rarely prescribes a mess of spinach for a patient acutely ill or for a convalescent with impaired digestion, just because the vitamine that is present in spinach is desirable."

To meet the evident need, Parke, Davis & Co. have developed and perfected Metagen, a product containing the three known vitamines. These are fat-soluble A, water-soluble B, and water-soluble C. Apart from its unquestioned utility in the treatment of the so-called "deficiency" diseases, Metagen should prove of immense value in the treatment of poorly nourished infants and children, in all cases of subnutrition and reduced bodily tone, and in convalescence from febrile, infectious and wasting diseases, wherein failure to improve may not be due so much to a lack of a properly balanced diet as to failure of assimilation. Here the vitamines play an important part in stimulating anabolism in adults and healthy growth in children. As a supplement to a highly concentrated diet in tuberculosis, Metagen should be tried for its immediate effect on nutrition. The same might be said of anemia and chlorosis.

In view of the radical change that has come over the accepted methods of preparing and supplying the food of the nation, it seems that the discovery of the vitamines and the elaboration of Metagen, the most available preparation of vitamines for the use of the physician, are not only timely but of the greatest importance in their bearing upon the health and well-being of the population.

Interesting literature will be sent to AMERICAN PHYSICIAN readers on request. Address Parke, Davis & Co., Detroit, Mich.

The Fat-Soluble Vitamin "A"
and Alkaloids

or active principles of *Cod Liver Oil* are presented in a palatable form in

MORRHUOL and MORRHUOL CREOSOTE

Prescribed for over thirty years with gratifying results in the so-called "deficiency diseases"

Recent studies on the Vitamine have confirmed previous clinical evidence and have definitely established the therapeutic value of these Chapoteaut preparations in the routine treatment of—

T. B., Rickets and Bronchial Catarrh

Prescribe in original vials

Laboratory Dr. Ph. Chapelle
Paris—New York

Literature and samples on request to

E. FOUGERA & CO., Inc.
American Agents
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Silver-Salvarsan

(SILVER-ARSPHENAMINE-METZ)

The sodium salt of silver-diamino-dihydroxy-arsenobenzene

RELATIVE infrequency of reaction, rapid disappearance of contagious lesions, and general therapeutic effectiveness seem to indicate that Silver-Salvarsan is a drug of real value in the treatment of syphilis.



Trade Mark
Reg. U. S. Pat. Off.

Silver-Salvarsan requires no alkalinization and its ease of administration commends it to many practitioners.

More than two million injections of Silver-Salvarsan have been given in the United States and abroad.

HA-METZ LABORATORIES, Inc.
One-Twenty-Two Hudson Street, New York.

Rx Campho-Phenique Antiseptics

PHYSICIANS—

Try these Prescriptions on your next case and note the result. The hypodermic administration of ***Campho-Phenique Liquid*** in Boils, Carbuncles and Hemorrhoids is a well known fact. Tried and tested by many Physicians with excellent results.

SUGGESTIONS.

Hemorrhoids.

℞ Inject three to seven drops into each Hemorrhoid.

Boils (to abort)

℞ Campho-Phenique Liquid.....ʒ iv.
Sig. Apply to point threatened; keep the part constantly moistened.

Felon.

℞ Campho-Phenique Liquid.....ʒ iv.
Sig. After splitting use freely.

Eczema (Gangrenous)

℞ Campho-Phenique Liquid.....ʒ iv.
Sig. Apply on compresses, and keep the compresses wet with C-P.

CAMPHO-PHENIQUE LIQUID, Small Size 25c, Large Size $1.20
CAMPHO-PHENIQUE POWDER, Small Size 25c, Large Size 75c

Physician's Samples and Literature on request.

CAMPHO-PHENIQUE COMPANY
ST. LOUIS, MO. • • U. S. A.

For Determination of the
Basal Metabolic Rate



The SANBORN
Handy
Metabolism
Apparatus

THE full clinical accuracy, simple technic and reasonable price of the Handy apparatus make it the instrument of choice for the busy practitioner who, to obtain the greatest service value, must have apparatus of day-in-and-day-out availability.

Literature and complete information sent free upon request

Sanborn Company
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Cheapness in lubricating oil is not measured in cost of oil, but in saving of repair bills. Buy a high grade oil regardless of its price and you will find it the cheapest.

Emco Oils, refined from Bradford Penna., Crude, are among the *really* cheap oils as they are pure, have least possible free carbon content and are backed by a most liberal guarantee.

Emery Manufacturing Co.
Bradford, Pennsylvania

These Advertising Pages are an

HONEST MARKET-PLACE

A Convenient Place Where You Can Deal With Confidence; and get information—commercial, scientific, general—helpful to you and eligible. We believe the right kind of medical journal advertising is truly useful to the medical profession. We seek to promote and extend that usefulness.

Our Advertising Standards

Advertisements must give honest service to our readers and their patients—is the *basic principle* for these standards and for the conduct of THE AMERICAN PHYSICIAN'S advertising pages.

Our attitude in applying these standards is not one of narrow technicality but of *practical service*—

Advertisements must give honest service to our readers and their patients.

Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

Fraudulent pharmaceuticals; those making dishonest claims.

Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

Pharmaceuticals and other mixtures containing narcotics or other habit-inducing drugs in quantities sufficient to promote their repetition on prescription (chloral-bearing proprietaries, etc.).

Potent pharmaceuticals which justly merit professional disapproval because of their lay advertising or *manifestly* unethical exploitation.

Financial advertisements that claim returns not compatible with conservative investment. Only *conservative* investments are advertised.

Further - - -

Advertising copy is subject to revision by the editorial staff.

THE AMERICAN PHYSICIAN agrees *heartily* with the *principles* of the Council on Pharmacy and Chemistry of the American Medical Association and we exclude from our advertising pages such pharmaceutical products as they have definitely shown to be unworthy of professional confidence and the manufacturers of which have not removed the cause of objection; but we do not accept such findings as are based on academic data without due recognition of general clinical experience.

Concerning formulæ, THE AMERICAN PHYSICIAN is urging pharmaceutical manufacturers to give full therapeutic data regarding formulæ, stating quantitatively active medicinal content, in order that physicians may intelligently prescribe. We do not accept advertising of secret pharmacueticals.

But We do not Decline - - -

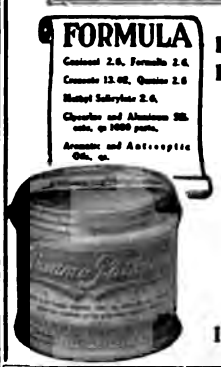
Advertising of original drugs, compounds or preparations imitated in current editions of the U. S. Pharmacopœia or National Formulary (except habit-inducing preparations); new products that seem to be honest and valuable, but which have not been reported upon by the Council on Pharmacy and Chemistry, or similar products whose manufacturers have not yet submitted the same to them for approval or rejection. We use our own judgment in these cases, but will always consider proper charges against this class of remedies.

Preparations containing a limited number of drugs in admix-

(Continued one leaf over)







PNEUMO-PHTHYSINE
In Analysis

In Synthesis

Pneumo-Phthysine

The best remedy (Pneumo-Phthysine) misapplied, may defeat the combined skill of all who have contributed to its success. More especially in the treatment of pneumonia, the unconquered foe of medical science.

If PNEUMO-PHTHYSINE has failed you, there is a reason.

How to Apply in PNEUMONIA

Apply a thin layer, thickness of silver dollar, to cheesecloth, cut to cover front of chest, including supra-clavicular space and reaching below to and including the true ribs. Do not heat plaster above temperature of body. Excessive heat hastens the evaporation of Guaiacol, so efficient as an anti-pyretic. Heat plaster to desired temperature by first applying to cheesecloth and then holding it over radiator, lamp, etc.

The liquid contents of application soon disappear through the absorptive property of the skin. The recurrence of pain or high temperature demands more frequent dressings.

Pneumo-Phthysine Chemical Co.
Chicago, Ill.



OUR tremendous purchase from U. S. Government of unused Army Operating Tables enables us to offer this cut-price bargain. Suitable for examining, treatment and operating. Adjusts easily. Made of steel enameled "snow white." Heel stirrups and leg holders free. Just $2.25 brings it to you. *Try it for 30 days: if not thoroughly satisfactory, return it and we will refund your money. If satisfied, send balance in 7 payments of $2.50 each. If you prefer to pay cash, we allow 10% discount, making the net cash price $17.78.*

A. S. ALOE CO.

551 OLIVE ST. ST. LOUIS, MO.

Our Advertising Standards

[Continued over from preceding page]

ture and in such form as may parallel a prescription written by a qualified physician who is seeking in the proprietary form elegant pharmacy in place of an extempore prescription.

Products composed of minor botanic remedies in adequate dosage, provided these drugs have a real place in medical literature and are well defined in materia medica, since many thousands of physicians esteem them despite pharmacologic data urged against them.

Minor antiseptics, soaps and toilet articles honestly advertised to both physicians and laymen without false or fraudulent statement; honestly advertised mineral waters and minor purgatives, food products, malt tonics, etc.

Service Guarantee to Readers

IF YOU HAVE ANY UNSATISFACTORY DEALING WITH AN ADVERTISER IN THE AMERICAN PHYSICIAN, WRITE US THE PARTICULARS AT ONCE.

WE WILL IMMEDIATELY TAKE THE MATTER UP WITH THE ADVERTISER AND SEE THAT THE ADVERTISER EITHER MAKES GOOD, OR HIS ADVERTISEMENT IS ELIMINATED FROM THE AMERICAN PHYSICIAN'S PAGES.

New Prices on Merz Santal Comp. Capsules

DISPENSING PHYSICIANS CAN BUY OF US DIRECT

10 Minim Elastic Capsules, box of 100
Also boxes of 12 and boxes of 24

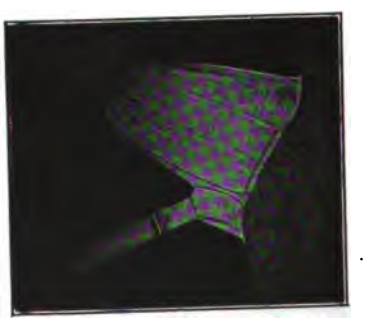
5 Minim Perles .....bottle of 36
5 " " .....bottle of 500
5 " " .....bottle of 1000

Unsurpassed for happy effect in Urethritis, Cystitis, Prostatic Troubles, difficult micturition, etc.

PRICES AND SAMPLES UPON APPLICATION

THE MERZ CAPSULE CO.
DETROIT, MICH.

THE STORM BINDER
AND ABDOMINAL SUPPORTER
(Patented)



THE STORM BINDER is adaptable to any case where an abdominal supporter is needed for man, woman or child.

THE STORM BINDER IS FOR GENERAL SUPPORT IN Viscereptosis, Obesity, etc., etc.

THE STORM BINDER IS FOR SPECIAL SUPPORT in hernia, floating kidney, descent of stomach, etc., etc.

THE STORM BINDER IS FOR POST-OPERATIVE SUPPORT of incisions in upper, middle and lower abdomen.

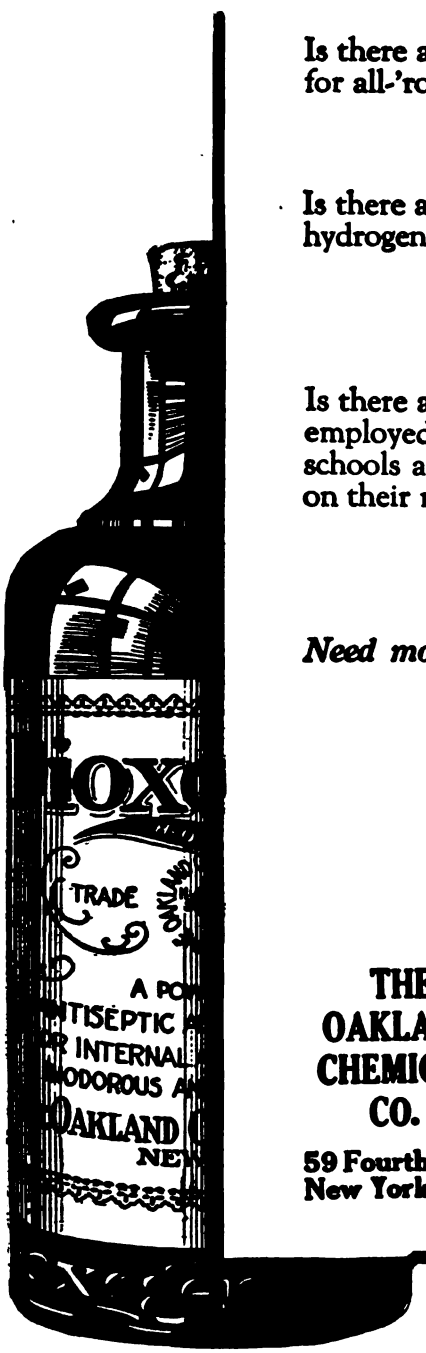
THE STORM BINDER IS FOR MATERNITY CASES, relieving the nausea and discomforts of pregnancy.

Ask for illustrated folder.

Orders filled in Philadelphia only—in 24 hours and sent by parcel post.

KATHERINE L. STORM, M.D.
1701 Diamond Street Philadelphia

Fair Questions



Is there a better or safer antiseptic, or germicide, for all-'round surgical, medical or hygienic use than

peroxide of hydrogen?

Is there a purer, more stable or better peroxide of hydrogen than

Dioxogen?

Is there any antiseptic more widely or generally employed in clinics, hospitals, offices, factories, schools and homes by physicians themselves, or on their recommendation, than

Dioxogen?

Need more be said?

THE OAKLAND CHEMICAL CO.

59 Fourth Ave. New York City

In purity and oxygen-liberating power, Dioxogen exceeds U. S. Phar. standards for H_2O_2 by 25%.

Dioxogen is odorless, almost tasteless, and entirely free from acids and acetanilid. It is also colorless and does not stain the skin.

Absolutely non-poisonous and non-irritating, Dioxogen is not only the most potent, but the safest and most harmless of antiseptics.

Applied to wounds, Dioxogen promptly destroys bacteria and stimulates the reparative processes of the tissues.

Dioxogen is the one powerful germicide at the physician's command that can be freely used anywhere and anytime without the slightest danger.

LIBERAL DOSAGE—MINIMUM EXPENSE

In specialising on Bacillus Bulgaricus Cultures under the scientific guidance of Professor Metchnikoff since 1906 and by constant co-operation and collaboration with eminent medical practitioners, we have arrived at the conviction that adequate dosage is one of the most important factors in the effective application of the Bacillus Bulgaricus to therapeutic purposes. Seven c.c. tubes have brought satisfactory results in cases where long-continued use of tablets showed no improvement whatsoever, and the administration of one ounce or two ounce doses, once or twice daily, gave surprisingly rapid results where the 7 c.c. doses had proved of little benefit, even when administered three to six times daily.

Acting on this scientific conclusion, we have worked out the problem of LIBERAL DOSAGE—MINIMUM EXPENSE. We have always maintained, and still steadfastly maintain, that it is unscientific and even dangerous to dispense culture media in bulk. Our reason for this has been clearly set forth for years on page 6 of our Physician's List. We have, therefore, introduced the "small drink" dose in individual, one-dose bottles.

THE BIG THREE

(ACTUAL SIZE)



"PINEAPPLE CULTURE, METCHNIKOFF." A two-ounce dose of Culture A in each bottle. Suitable for all cases of autointoxication, except Diabetes, or where fruit juices are counter-indicated. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.00.



"WHEY CULTURE, BACILLUS BULGARICUS, METCHNIKOFF." A one and one-half ounce dose in each bottle. Suitable for colon injection and all cases where a fruit juice medium is not desired. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.25.



"BULGARICUS BOUILLON, METCHNIKOFF." For Diabetics. A one and one-half ounce dose of Culture D in each bottle. The most valuable therapeutic agent for the treatment of Diabetes known to medical science. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.25.

All the above products can be obtained at the leading druggists or will be delivered at patients' address without extra charge.

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FRANCO-AMERICAN FERMENT COMPANY

225-7 SIXTH AVENUE, NEW YORK

February THE 1922

AMERICAN PHYSICIAN

(REG. U. S. PAT. OFF.)

The Family Physician is the Health Factor of Most Fundamental Importance

Continuing the Quarter-Century of Distinctive Service of
The Medical Council

BOSTON MEDICAL
JAN 5 1923
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Family Physician and the Hospital

Great Change Impending in the Profession Demands Constructive Coordination (page 132)

Surgery of the Thymus Gland

Many Disputed Points Illuminated for the General Practioner (page 107)

A CASE ILLUSTRATING A METHOD FOR

The Radical Cure of Varicose Veins

Dr. Mackenzie Forbes' Twenty-Third Clinic (page 124)

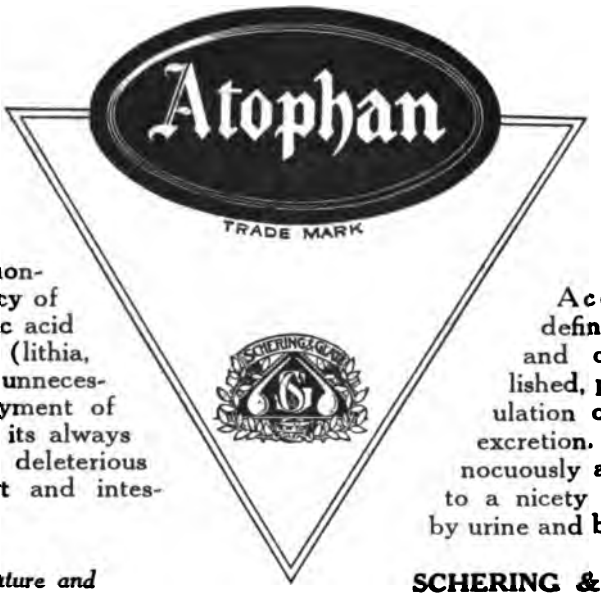
THE DANGER OF INCORRECT DIAGNOSIS IN

Ovarian Hemorrhage, Not Due to New Growths or Pregnancy

(page 113)

Full Contents on Page 92

$2.00 THE YEAR "Most Widely Circulated Medical Monthly" 50c THE COPY



Has finally demonstrated the fallacy of the so-called uric acid solvent therapy (lithia, etc.), and made unnecessary the employment of Colchicum with its always to be feared deleterious effects on heart and intestines.

Accomplishes a definite, scientifically and clinically established, physiologic stimulation of the uric acid excretion. Performed innocuously and controllable to a nicety by dosage and by urine and blood tests.

Information, Literature and Ample Trial Quantity from

SCHERING & GLATZ, INC.
150 Maiden Lane, New York

GOUT

AN IDEAL ARSENICAL

SODIUM DIARSENOL

SODIUM ARSPHENAMINE

Sodium Diarsenol marks a distinct advance in syphilology. It dissolves very quickly in water, giving a solution ready for immediate injection. No addition of sodium hydroxide is necessary. It has the therapeutic advantage of arsphenamine with the solubility and convenience of neoarsphenamine, and gives clinical results equal to or better than either of the two latter compounds. Neutralization with alkali being obviated, there is no undue handling and consequent decomposition of the highly reactive solution.

SODIUM DIARSENOL has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in "New and Non-official Remedies."

Manufactured by Diarsenol Laboratories, Inc., Buffalo, N. Y., under license from The Chemical Foundation, Inc., under patents 1059983 and 1078135.

Samples and Literature on request

DIARSENOL COMPANY, Inc.

BUFFALO BOSTON ATLANTA

MORE people die from pneumonia than any other disease.

Approximately 25 out of every 100 cases end fatally. Dr. Gustav Goldman has demonstrated that at least twenty of these twenty-five deaths may be prevented by employing Bacterial Vaccines.

Why delay and chance a fatal termination?

Dr. Gustav Goldman's article appeared in American Medicine, March, 1921

Bacteriological Laboratories of
G. H. SHERMAN, M. D.
DETROIT, U. S. A.

Nervous debility, nervous exhaustion, and all asthenic affections of the nervous system, so prevalent to-day, will respond to treatment which will replenish the reduced mineral reserves of the system and supply the necessary phosphorus to restore degenerated nerve cells

FELLOWS' SYRUP
OF THE
HYPOPHOSPHITES,
"The Standard Tonic for over fifty years,"

contains the basic elements to ensure normal metabolism, together with the dynamic agents, quinine and strychnine, which make it a true stabilizer of shaken nerves

Samples and Literature sent upon request.

FELLOWS MEDICAL MANUFACTURING CO., Inc.
26 Christopher Street **New York, N. Y.**

FELLOWS' COMPOUND SYRUP OF HYPOPHOSPHITES

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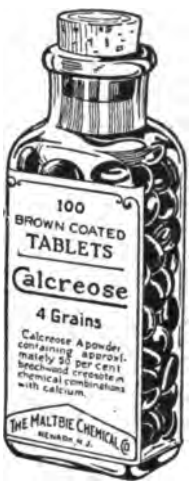
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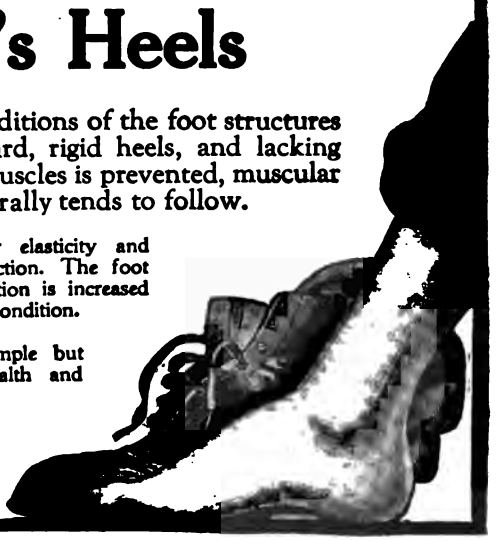
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KEANE: A Preliminary Report and Study of the Value of Mercurosal in the Treatment of 60 Cases of Syphilis; abstracted in *Bulletin of the Wayne County (Mich.) Medical Society*, October 31, 1921.



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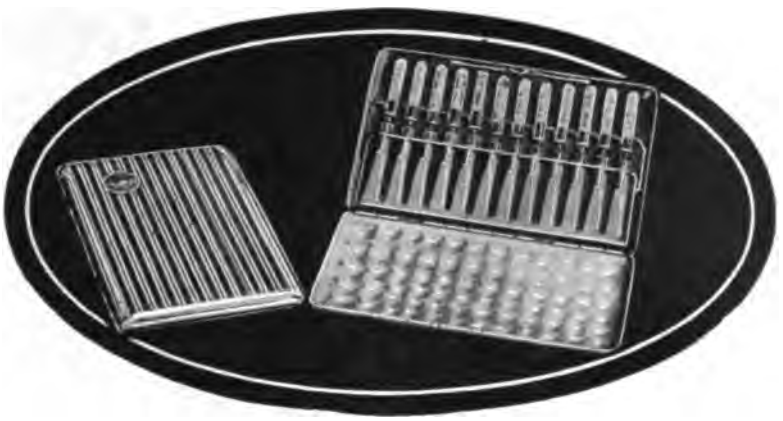
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Unscientific Practice; the "Pill Doctor"

By JOHN U. FAUSTER, M.D., Defiance, Ohio.

Proper Use of Reputable Medical Journal Advertising

the Efficient Way to Stop an Irritating Annoyance

Dr. Fauster says that while he has due respect for the responsible pharmaceutical producers, and realizes that the refinements in therapy are in a large measure their handiwork and that the development of the biologicals is an epoch which could be realized only with their co-operation, yet on the other hand, the nostrum vender, whether he solicits patronage from the medical profession or from the laity, cannot be too strongly condemned; nor the physician so lacking in scientific pride and professional self-respect as to allow himself to patronize such houses.

Of course, it hardly needs to be said very few readers of The American Physician will be found among the users of such products. Men of that type would find very little in The American Physician to appeal to them.

For our readers the problem is how to avoid the irritating annoyance and waste of time Dr. Fauster so graphically describes; and also most effectively to assist in maintaining the professional public opinion that slowly, but surely, is remedying this problem.

What is needed is something practical; something the individual practitioner can use effectively.

Have you thought, Doctor, of the use YOU can make of reputable medical journal advertising in checkmating the nostrum vender?

Statements the pharmaceutical manufacturer makes in advertising in reputable medical journals (those who properly censor advertising pages in the interest of service to readers) are public statements made before the whole profession for which the manufacturer is publicly responsible. Contrast this with the irresponsibility so often the case with the word of mouth statements of some personal representatives ("Detail Men") and so forcefully portrayed here by Dr. Fauster.

Make it your standard procedure to refuse to give time to the representative of any house that has not first properly gained your confidence for its scientific integrity and dependability in public statement in the public forum properly available for that purpose—the advertising pages of medical journals in which you have confidence.

The reputable pharmaceutical houses whose products and service are thoroughly scientific and to be depended upon, we know would be more than glad to co-operate with the profession in developing this guarantee of responsibility in promotion methods if practitioners would make it a practice to demand it.

We can't take space to further develop this idea here, but shall do so in subsequent issues. After reading this forceful paper of Dr. Fauster's—think it over.—THE EDITORS.

SOME TIME AGO a zealous and energetic representative of a pharmaceutical house, of which I had never heard, that is located in one of the smaller cities of this state, called on me and directed my attention to the preparations which he classed as "very elegant," manufactured by the concern he traveled for. He had concoctions of various colors and consistencies, each having its own definite virtue—they never disappointed and were infallible and could be used to cure certain diseased conditions. He seemed considerably surprised when I did not embrace the opportunity to supply myself with these "goods," as he called them, and being loath to leave me entirely without the aid of his extremely valuable remedies he finished his solicitations by saying: "Doc, don't you want a good kidney pill?" I used both the spoken and sign language to inform him that neither he nor his wares were indispensable to my continuance in

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the practice of medicine, whereupon he retired.

This experience is not at all novel and rare; many of you have had similar ones, no doubt. There is a reason for such experiences or they would not occur. "What is the reason?" you ask. Manifestly that lies with the physician. If this class of salesmen could find no sales they would be engaged in other lines, which means that if we physicians did not buy their junk it would not be offered to us.

The question then follows: "Why do physicians buy these ready-to-use remedies that have the advantage over Aunt Jemima's Pan Cake Flour in that they do not need to have water added to them to make them ready to 'serve'?" That can be answered in one word—INDOLENCE, an indifference to apply oneself to treat a case scientifically.

Perfunctory Examination and Snappy Diagnosis

We have forgone the task incident to the situation in the treatment of disease that would require any energy in a therapeutic way and are looking forward to the happy day when diagnosis will be made for us. With this later achievement realized, cases that are not ambulatory can send their symptoms by letter or messenger when, with a diagnosis and treatment "all ready-to-use," the office girl can supply the patient with what he needs and we can continue our game of pinochle quite undisturbed.

Is this overdrawn? Perhaps so, and possibly not so much even if so. I have a physician in mind who buys acetanalid tablets and sodium bicarbonate tablets in large quantities. He has these tablets in packages ready to dispense, and that is about all he does dispense. I should add, however, that he has them in different colors so that the patient may have a change in medicine should this become advisable.

We rail at the cults and examine chests—when we care to go to that trouble—through the clothing; which of these two evils is the lesser? If a patient complains of a discomfort in the upper abdomen we look at his tongue and diagnose his case as "indigestion," whatever that means, and give him a "digestive" of what we happen to have the most.

Several years ago I was testing a gastric filtrate and in the process used a bit of coagulated egg albumen. While I was engaged, a detail man representing the manufacturers of a widely known elixir lactated pepsin called. He assured me that their product digests an inordinate amount of albumen. I put a bit of the coagulated egg-white in a test-tube and covered it completely with pepsin elixir; the tube was kept at body temperature for a period of twenty-four hours at which time there was no change in the contents of the tube. Those of you who have followed the procedure of adding coagulated egg-white to the gastric filtrate will recall how quickly the filtrate disintegrates the specimen.

Cases of headache are attribute to "biliousness," with no attention to any existing pathology. Rheumatism and grip cover a multitude of ills, while "heart trouble" fits in very well when nothing else is handy; and so the story goes except in those cases wherein the patient has made his own diagnosis and directs us to prescribe accordingly. When we prescribe without having a definite reason to use the remedy we employ in the particular case in hand, we are in the same class with the long-haired individual who sells corn cure and worm medicine on the street corner—the quack.

To the public there is more or less mysteriousness in the practice of medicine. The laity has not gotten away entirely from the savage's idea of the medicine man. With the other professions this condition does not prevail. The lawyer while trying a case has an opposing council ready to snap him up should he chance to present statements that are not founded on facts in the case. Thought from the pulpit is an open page, but who knows about the physician and his work—none but himself. *What a change it would make in the practice of medicine if the physician's work could be lined up for inspection as the soldier is lined up to be criticised by those who are qualified to make such criticisms.* The slothful and slovenly manner in which we pursue our professional duties is accountable in no small way for the existence of the cults. Legislation controlling these nuisances is valuable. However, if we mend our ways a larger part of their clientele will be kept from them, and without sufficient patronage they cannot endure.

Systematic and Scientific Thoroughness Imperative

Having brought to your attention a few facts which you have already recognized, clearly indicating that a fuller appreciation of a sense of duty to the public is justifiable, the next thing to be considered is what should be done to remedy this evil. Some one has said that a large percent of a physician's success depends on his securing the confidence of his patients. This may be true; the psychology is plausible. The way to secure the confidence of your patients is in an honest endeavor to give them such service as they seek and require. Give them the best that is in you and their confidence is secured.

We should do less work but should do it better than is our habit, should see fewer patients, but should give them competent service. A physician may be

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SPONTANEOUS EDITORIALS

The editorial form has a journalistic value *all its own*—a quality of *concisely illuminating* a subject like a searchlight playing over a landscape.

Unfortunately, however, the editorial is subject to *the limitation* of being so largely *occasional* writing—forced expression for the occasion.

Frequently we receive short pithy contributions that have the *natural* qualities of the editorial plus the *vigor* of spontaneous expression; are in fact *spontaneous editorials*. It has occurred to us to give them a *particular attention* they merit.—The Publishers.

tempted to hurry about his work if he has several patients waiting to consult him, yet such a procedure is a mistaken one. Our aim should be to do our task well, not how many patients we can prescribe for in a given time; for we are not doing "piece work."

Every physician should have at least a small laboratory, not that we are expected to go into laboratory work extensively, but that we may obtain such information that many times cannot be realized in any other manner, and which may be absolutely essential that our treatment may be properly directed. Should the advice of an expert technician be necessary this is easily available. In the great majority of instances as much information as is required to aid in making a proper diagnosis can be obtained in the physician's own laboratory.

One should keep case records and not be embarrassed by being forced to inquire of the patient what his trouble was when he last consulted us and what we gave him. There is a further advantage in keeping case records in that in following out the printed blank one is less liable to miss certain parts of the examination that might be very helpful in arriving at a proper conclusion. We should use care and be concerned in making a physical examination. The case may seem trivial to the physician, and indeed it may really be so, yet it is not so to the patient, else he would not have consulted us. Diagnosis should be based on what we have observed in the examination and the treatment directed accordingly.

With a proper diagnosis established the process of prescribing is simplified. We cannot prescribe satisfactorily without first having found a definite condition at which to direct our therapy. One cannot take a journey unless he first knows his destination and the way to proceed to it; thus with the treatment of diseased conditions we must first know what we have to do before we can set about to do it.

Our therapy should be selected with the same care that is followed in making a diagnosis. There are useful and dependable drugs which may be selected from a known and tried pharmacopea; we should refrain from using nostrums whose only virtue is in the propaganda the commercial concern producing them exploits them with.

I have due respect for the responsible pharmaceutical producers. The refinements in therapy are in a large measure their handiwork; the development of the biologicals is an epoch which could be realized only with their co-operation. On the other hand, the nostrum vendor, whether he solicits patronage from the medical profession or from the laity, cannot be too strongly condemned. I know of but one practice that is more deplorable, and that is the habit of disregarding proper diagnosis and treatment by accepting the extravagant statements and prescribing the products of these irresponsible drug concerns.

Health Conditions in the South

Much Misrepresented

IT IS UNFORTUNATE that so little of the South is included in the United States "registration area," for if vital statistics of official character were available from this section of the country it would be impossible for false impressions regarding health conditions there to gain such wide currency, to the injury of one of the fairest sections of the nation.

Some time since we commented on the claims of Goldberger that pellagra was rampant and underfeeding common throughout wide sections of the South, and the sensational newspaper sob stuff over the alleged poverty and threatened starvation in Dixie Land that followed the issuance of certain government bulletins. Since then we have been aided by friends in ascertaining actual conditions on the spot, and knowing the South somewhat ourselves and having a son who is doing commercial publicity work there over a wide area, we feel justified in attempting to correct some false impressions.

As nearly as can be ascertained by Southern health officers, there are, on the authority of *Southern Medical Journal*, whose estimates were very carefully collected, less than 10,000 cases of pellagra among the 35,000,000 people living in an area of over 1,000,000 square miles; that is, one person in 3500, inclusive of mild cases, has the disease, or one case in 100 square miles. This makes it apparent that pellagra is merely one of the endemic diseases of some sections of the South and that it is not an epidemic condition.

The etiology of pellagra, despite many claims, has *not* been definitely ascertained. That it is a deficiency disease is probable; but with our modern understanding of vitamines the North has been shown to have quite as many cases of deficiency disease as has the South.

Other Diseases

We remember very vividly the terrible epidemics of yellow fever that, years ago, were a Southern menace; but yellow fever is now unknown down there. We are also conversant with the hook-worm menace; but if you go South today in search of hook-worm cases you will have quite a hunt to locate any notable number of characteristic cases except in certain isolated sections where people will not wear shoes or co-operate with the health officers. Malaria still exists to too great a degree, though it is being eradicated fast. Cholera no longer exists in the South.

When Philadelphia was a place of 10,000 people, cholera, yellow fever and malaria were so great a health menace that it was seriously proposed to abandon the place except as a port. We have personally seen, years ago, as serious and widespread malaria in Michigan as the South ever encountered.

To this day the North has not made the headway it ought to make in eradicating tuberculosis. Perhaps comparisons are odious, especially between various sections of the nation; but it must be remembered that even the North is what it is today because it is so well populated that it has been financially profitable to drain the swamps, open great markets for produce, develop the dairy industry and remove insanitary menaces. The lower half of New Jersey has, naturally, no better soil than has Georgia; but look at New Jersey farming now and you will see what Georgia can become. Really, the problem of Southern health conditions is an economic one, for there is no natural reason why the South may not become as sanitary as is any section of the North. It is asserted by Southern authorities in position to know that the death rates of the whites in the South are lower than the white death rates in the North. Rampant industrialism is creating new health menaces in the North even faster than it is in the South.

Give the South a Chance

Climate is not a mere matter of latitude. The summer is just as hot in St. Louis and other parts of the Mississippi valley as it is in New Orleans. Los Angeles is in about the same latitude as is Charleston, S. C., the sun beating down as vividly in one place as in the other. Southern Florida is in the latitude of Arabia; but a Floridian would perish of heat in Arabia. Don't be afraid of a southern latitude in the United States, for Philadelphia has as much sunstroke and heat prostration as has Savannah. One of the most glorious climates in the world is that of the Carolinas. There is plenty of fine scenery in the South, and a wealth of fine people. We have thousands of farmers going to Canada who would far better go South, where nature is kinder. The South is a comer: give her a chance! She has had too much bad advertising and she is lied about, just as "the great American desert" used to be. Yet the South is the greatest refuge for the ambitious man with little money that the United States has today to offer to her people. If a man goes South and is willing to work, he is less apt to starve than if he settled in Chicago.

We want to ask the Southern doctors to "pep up" and help boost their section; making it healthy and rich is no more of a job than it formerly was in Ohio. Economic conditions need a little pushing up grade in the South, it is true; and in some places there rather primitive conditions exist. There is no real reason, however, why a pull-together movement among Southern and Northern people should not make of the South a glorious heritage for the coming generation. Fundamentally there is no reason for the South being unhealthy, and conditions there at present are vastly better than they are commonly represented to be. Doctor, go and see for yourself.

COMING IN NEXT ISSUE

Complications Following Gastric Operations, by A. Wiese Hammer, M.D.

Complications and sequalae of gastric surgery are frequent and important. To know the probabilities and possibilities of the procedure under consideration is to know what to tell the suffering patient in quest of vital advice. The paper of Dr. Hammer is excellently presented and covers its ground admirably well. We hope our readers will benefit by it.

Some Pediatric Reminders, by H. Brooker Mills, M.D.

From his wide experience, the author gives practical points which will help the physician both in diagnosis and treatment, with his small patients; interestingly written in the shape of brief, pertinent reminders, on the more frequently met pediatric problems.

Symptoms and Diagnosing of a Rectal Fistula, by Charles J. Drueck, M.D.

The general practitioner knows little of rectal fistulae and usually "bothers with it" as much. That it is real, obstinate, and worthy of serious attention, those who have suffered with it will tell you in no uncertain terms. Dr. Drueck's paper presents this rather neglected but important subject in clear, concise and practical form. He discusses all the phases of this disease in a way that will interest and help the reader. Don't miss it.

Rectal Etiology of Gastroenteroptosis, by E. Jay Clemons, M.D.

The paper of Dr. Clemons is well written and well compiled. It is based on excellent logic of cause and effect. It, furthermore, reviews briefly but clearly a series of embryologic, anatomic and physiologic facts which the general physician has a tendency to forget. They are all subjects of importance and are well worth reviewing.

Hydrotherapy in General Practice—A Few Examples, by O. M. Hayward, M.D.

The effect of hydrotherapy is often remarkable, even in its most humble form. The washing of the face with cold water removes "sleepy feeling" and sensation of fatigue, as if by magic. The exhilarating or soothing action of the cold or hot bath, as the case may be, and its beneficial influences in both health and disease, cannot be denied by even the so-called opponents of this form of treatment. Combine these simple truths with the facts elucidated in the paper so non-pretentious but so clear as it is presented by Dr. Hayward, and you will enrich your therapeutic armamentarium with a series of "simple procedures which will serve any physician well if he will only make use of them."

Syphilitic Leg Ulcer, With Report of a Case, by C. J. Broeman, M.D.

The genesis of leg ulcers is as uncertain as repellant, as it is indeed unyielding to corrective measures. Here the best efforts of the best brains often fail. Verily, how are you going to treat the obstinate sore unless you know that the causative factor is varicose veins, tuberculosis, diabetes, phlebitis, trauma or syphilis—influenced additionally perhaps by elements such as age, sex, occupation, constitutional or social environments? This multiphased subject is admirably discussed in Dr. Broeman's paper.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Surgery of the Thymus Gland

Many Disputed Points Illuminated for the General Practitioner

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The function of the thymus gland has long been in dispute, and rather fantastic claims made as to its endocrine activity. This paper clears up many disputed points, sets forth what is definitely known, and gives clinical points of real value in the diagnosis and treatment of the thymus gland and associated structures.—The Editors.

IT SEEMS LIKELY that within a short period of time the thymus gland will be entirely eliminated from the field of surgery. This is interesting because it is but a very short time since this organ was first looked upon as coming legitimately within the domain of surgery.

It has been protected against surgical attack (a) because of its inaccessibility, (b) because of its tendency toward self-elimination, (c) because surgeons are less likely to attack pathologic conditions in children than in adults and the thymus gland is usually eliminated before adult life.

It seems quite worth while at this point to review the physiology of this organ before proceeding to the surgical consideration.

The Physiology of the thymus has for the most part remained a mystery—though a number of interesting observations have been made. A further knowledge is of greatest importance, for we should know the full effect upon a patient in whose case thymectomy is indicated and should also know whether there is any form of specific treatment for conditions arising due to thymus disturbances.

No one doubts that the thymus belongs to the so-called group of glands of internal secretion. It does not seem amiss at this point to review briefly the literature as to observations on thymus function and physiology. In so doing only the more important and well established results are mentioned, and the numerous disputed ones are omitted.

Thymus Function

1. The sexual organs and the thymus work antagonistically. In man and other animals a double castration is followed by hyperplasia of the thymus and prolonged atrophy of the same. In young animals during breeding the thymus undergoes very rapid atrophy. Removal of the thymus is followed by increase of the sexual organs and cases of hypoplasia of the testicle accompanied by hyperplasia of the thymus have been reported. The general results seem to hold equally true in case of either sex. Still further of interest in this connection are the respective effects of absence of the sexual organs and the thymus on the skeletal system; castration in the young leads to skeletal growth while thymectomy is followed by a decreased growth. The same antagonism is further borne out by the fact that involution of the thymus occurs at the time of sexual development and the latter probably is instigated by the former. The observations so far cited are, mainly, to be credited to Schredde, Hamma, Calzolori, Hart, Nordman, Henderson, Soli, Lucien, Parisot, Klose and Tandler.

Decreased active and passive immunity have been observed in thymectomized animals.

The researches of Matte, Basch, Klose, Vogt and others have shown that thymectomy when performed on young animals leads to marked changes in the osseous system and its development. The skeleton shows under-development in length; the epiphyses are abnormal, are soft and deformed and contain about half the normal amount of calcium. It is difficult to say whether these changes are rachitic. Fracture healing occurs with little callus formation, as in rickets.

Symptoms on Removal

Klose and Vogt made a careful study of thymectomized dogs and describe first a period of increased weight, due to the fat, followed by cachexia thymopriva, and they describe, further, coma thymicum and idiotra thymica.

Removal of the thymus is also followed by an increased electric irrritability of the nerves (Klose, Basch, Vogt). The similarity has been pointed out

between the symptomatology of tetany in man and the symptomatology observed in thymectomized animals. In both cases there is a calcium deficiency and tetany in children occurs at any age when there is a variation in the thymus gland. It is interesting to note that complete thyroidectomy leads to disturbance of calcium metabolism and tetany and to disturbance in the skeleton and that the thyroid, parathyroids and thymus all are branchial in their origin.

Thymectomy also leads to degenerative processes in the brain and ganglion cells and to a general acidosis. It is claimed by some that the thymus normally acts as a detoxifier.

The thyroid and thymus are related; a removal of either one leads to a hyperplasia of the other. Further, an exactly similar relationship between thymus and spleen has been observed (Matte), and splenectomy hastens the death of thymectomized animals. The question arises, does the thymus in man compensate for the spleen in splenectomy?

Thymectomized animals show marked degenerative processes in the muscles, but in contradistinction to this is the thymic hyperplasia in myasthenia gravis.

Chemical Relationships

Recent chemical studies of the thymus have pointed to a possible relationship of thymus to phosphorous metabolism, similar to the relationship between the thyroid and iodine metabolism.

Thymus gland extracts have shown little physiological effect. Some investigators have described a lowering of blood-pressure by injection of thymus gland extract and on this basis attribute the phenomenon of status lymphaticus to hyperthymism. Ascher and his pupils, Miller and del Campo, showed the thymus extract to have a specific property of restoring muscle from fatigue and of preventing the muscle from fatiguing for a considerable time. They obtained similar results by intravenous injections of thymus extract into either fatigued animals or animals about to be fatigued. Ascher was unable to find any effect of thymus extract on the blood-pressure.

It is interesting to follow the embryologic development and the histologic structure of the thymus gland.

Minute Anatomy

Embryology and Histology. The thymus is first noted in the 5-months' embryo as an entodermal evagination from the third branchial cleft on each side. Early these outgrowths are hollow and communicate with the pharyngeal cavity showing characteristics very similar to the early stages of the thyroid gland. Later they become solid and lose their connection with the parental epithelium. Sometimes, however, the communication persists as a duct, and we have a fistula which begins behind the tonsils and runs diagonally down the neck and ends at the sternum. The thymus grows caudally until the caudal ends of the lobes lie ventral to the carotid arteries. If the cephalic end does not disappear completely there occurs an accessory thymus lobe. As the gland continues to increase the caudal ends lie upon the cephalic surface of the pericardium, a fact which must be borne in mind when operating, and the cephalic ends reach to the thyroid. With separation of the thymus from the thyroid, the former leaves fragments on the lower poles of the latter. These give rise to parathyroids III, and are from the third-cleft-portion of the thymus. Groschuf has demonstrated in animals, in addition to the thymus from the third cleft, a second or inner one from the fourth; and Grosser and Bettle, with serial sections of thyroids of children up to two years of age, demonstrated a thymus metamer IV. This portion gives rise to the parathyroids IV. All this is of importance because it is evident that only by complete intrathoracic thymectomy and complete removal of thyroid and parathyroids is all thymus tissue removed.

The fibrous capsule of the gland sends down processes into the gland substance and divides it into lobules .5 to 1 c.m. in diameter. Each of these is further subdivided. The whole gland is made up of adenoid tissue. The small lobules are especially rich in blood-vessels and in lymphocytes at their peripheries, while the center is not so dense. Thus we distinguish between medulla and cortex. The medulla contains the Bassals' corpuscles, which may be remains of epithelium (His, Steider, etc). These corpuscles consist at the periphery of concentrically arranged semilunar cells, while at the center are nuclear and cell detritus. Nucleated erythrocytes and mitosis are frequently seen in the gland. Fine nerve plexuses are seen in the septum and medullary portion.

Gross Anatomy

The thymus may occupy the entire area bounded from above downward between the lower border of the thyroid and the diaphragm, the so-called thymic area. In shape the thymic area is quadrilateral and it is divided by the upper border of the manubrium sterni into upper surgical and lower non-surgical regions. The thymus is formed by two lobes enclosed in a capsule and in close anatomical relation to each other but without an isthmus. According to Hammar, the weight at birth is 13.26 grammes; between the 11th and 15th years it increases in size and reaches its maximum, 37.52 grammes, after which it decreases with age, (6 grammes at 65 yrs.).

In front the thymus is in contact with the middle cervical aponeurosis, behind with the anterior aspect of the trachea and laterally with the common carotids. The two thyro-thymic ligaments which extend from the lower poles of thyroid to the upper pole of the thymus each contain a branch from the inferior thyroid arteries to the thymus. The external part of the

capsule is directly continuous with the connective tissue of the region; through the capsule the gland is closely related in the mediastinum to the arteries and nerves and veins—in succession the ascending aorta, aortic arch, right brachio-cephalic arterial trunk, left common carotid and left subclavian are in relation to the thymus. The right inferior cardiac nerve, left brachio-cephalic trunk, phrenic nerve and the pericardial and diaphragmatic vessels are also in contact with the gland.

In young children the upper pole as a rule extends 1 to 2 cm. above the episternal notch, but in adults the thymus, even when hypertrophied, does not usually extend any distance above the episternal notch.

Involution of the thyroid occurs in a number of conditions, physiologically after puberty, during starvation, etc. Involution is very marked in young animals that are allowed to breed.

These anatomic facts are of the greatest importance when this gland is considered surgically because their study, together with the embryology, will show that having grown down from above, the blood supply can be readily controlled and the gland enucleated from the space into which it has insinuated itself with relative safety.

Status Thymo Lymphaticus

Status lymphaticus designates a condition of hyperplasia of the entire lymphatic system, in which the spleen participates. Hyperplasia of the thymus associated with status lymphaticus is called status thymolymphaticus. It is believed by many that thymic hyperplasia is always associated with status lymphaticus, and conversely, though in varying relative degrees, while others recognize three conditions, namely, status lymphaticus, status thymo-lymphaticus, and status thymicus. Closely related conditions are the hypoplastic constitution described by Bartel, as Comby's "infantile arthrismus" and Czerny's "exudative diathesis," etc.

Status thymo-lymphaticus is associated with hypoplasia of the cardio-vascular system, seen as narrowed calibers of the heart, aorta and large arteries, often with very long intestines and anomalies of the kidneys, sometimes with hypoplasia of the adrenals, occasionally with anomalies of the sex organs, and hyperplasia of the brain. Children with this condition show a damaged physical condition, the extent of which is not always proportional to the degree of thymic hyperplasia. They are under-resistant to infection, pale, though well nourished, and have impaired nervous systems and frequently die from heart failure. They bear anesthesia badly.

The most remarkable feature of thymic hyperplasia is dyspnea, which may vary all the way from slight to most intense, which may be constant or intermittent, and which may be accompanied by inspiratory stridor, also sometimes expiratory in extreme attacks. The length of attacks varies from a few minutes to several days. We are dealing here with pressure on the trachea, the clinical picture being termed *thymic tracheo-stenosis*. We differentiate between the acute and chronic forms of the same. The former comprises certain cases of asphyxia of the newborn and children, who either previously are well or after a few slight attacks of dyspnea develop sudden intense choking spells and die in suffocation. The chronic type comprises cases of repeated frank attacks and certain cases of chronic ill-defined respiratory disturbance, due to thymic hyperplasia.

Chronic cases are, of course, liable to acute attacks, with death. Attacks may be precipitated by dorsal lordosis, hyper-extension of the neck, coughing, anesthetics, etc., or may occur without any recognizable cause whatever.

Thymic Tracheo-Stenosis

The mechanism of thymic tracheo-stenosis is as follows: In the newborn the antero-posterior diameter of the thoracic outlet is relatively small (2 to 3 c.m.)and the hyperplastic thymus wedging in this "critical space" constricts the trachea. This happens in coughing and swallowing as the thymus is attached to and moves with the thyroid, and in hyperextension of the neck or in dorsal lordosis. In the young, the trachea lies relatively high and its lower and less firm portion is near the critical space; also the trachea is inelastic and therefore easily displaced. The trachea, in the region between the innominate and left carotid, lies between the thymus and spine where sudden swelling of the thymus can exert intra-thoracic pressure. After two years the thymus decreases in relative size and the upper thoracic opening becomes altered toward the adult form, hence the rarity of thymic tracheo-stenosis after two years of age. Further, children with thymic hyperplasia are sickly and disposed to circulatory disturbances and hemorrhage into the thymus. Edema of the glottis may play some rôle at times.

In contradistinction to the cases with mechanical cause, are cases of sudden death in which hyperplastic thymic glands are found but without any possible sign of tracheal compression. Such deaths occur more commonly in older children and adults. The attacks may be brought on by coitus, punishment or other extreme excitement or may occur out of a clear sky. Explanations of this type vary. Paltauf claims these and all thymic deaths are due to a condition of which the thymic hyperplasia is an effect. Others attribute the phenomenon to heart failure, due either to pressure on the base of the heart or on the cardiac ganglia, or due to an inhibiting shock of an instable nervous system. Then, too, there is the possibility of deranged internal se-

cretion, possibly hyper-thymic function or a dysfunction. Wiesel points out the hypoplasia of the adrenals seen in thymic hyperplasia and suggests that there may be an insufficient adrenal function, as a result of which disturbances that ordinarily cause temporary fall of blood-pressure lead to vascular paralysis and heart failure.

The differential diagnosis of thymic tracheo-stenosis, according to Klose, includes malformations of the larynx and epiglottis, intra-laryngeal obstruction, foreign bodies, polypi, adenoid hypertrophy, retro-pharyngial abscess, acute pharyngitis, croup,, diphtheria, fracture of trachea, foreign bodies with edema of glottis, enlarged mediastinal and bronchial glands, spasm of the glottis (which is difficult to exclude), and laryngismus stridulus.

Careful examination rules out a number of these conditions. In spasm of the glottis a sudden release of the spasm with inspiratory stridor allows free breathing, while in thymic tracheo-stenosis the stridor and cyanosis remain fairly constant; in laryngismus stridulus there are signs of tetany. Klose further points out two important points indicative of respiratory obstruction below the level of the thyroid cartilage, stridor and sucking-in of the lower thorax without hoarseness and very little up and down motion of the thyroid cartilage. Little emphasis can be placed on the inspiratory as versus expiratory nature of the stridor.

Diagnosis

In making the diagnosis it is important to thoroughly try to feel the thymus. This is sometimes possible. Percussion helps; the thymic area of absolute dullness reaches from the upper end of the sternum to, and fuses with, the area of cardiac dullness. Unfortunately, it is not always present. Aneurism and substernal goiter which could cause confusion are practically absent in children. The X-ray is also a help but is likewise fallible. In typical roentgenograms the thymic shadow is seen as a thin, soft shadow with sharp margins overlapping the mediastinal shadow. Its shape and location vary. When all physical signs fail a positive diagnosis can be made from the history of chronic dyspnea with acute exacerbations and with an expiratory tumor showing in the jugulum.

An enlarged thymus can also compress the gullet, the vagus nerves, the large vessels and the heart—all with symptoms. From the sixth to the sixteenth month of life thymic tracheo-stenosis is most frequently encountered. It is more common in males than in females.

Treatment

Formerly the treatment of hyperplastic thymi in children by the X-ray has been condemned because of the danger that it may precipitate attacks of tracheo-stenosis. Intubation and tracheotomy are only palliative. · Thymus extract feeding is yet experimental. Phosphorous and calcium given internally improve certain phases of thymic disturbances, but of course have no effect upon the tracheal stenosis. Thus the only treatment to be advanced, in case the enlargement does not subside under careful X-ray treatment, is surgical, which will be described under its proper heading.

Aplasia and Hypoplasia of the Thymus

These conditions are known to exist. As yet the symptomatology resulting has not been systematically worked out. Klose points out that in disturbances of internal secretion we see principally psychic changes, skin changes and bone changes, the latter being very analogous to those observed in thymectomized dogs consisting of disturbances of growth and ossification, shortening and deformities. Then, too, some cases of idiots show at autopsy thymic hypo- or a-plasia. There are good clinical reasons for assuming the existence of an "idiotic thymicades." The thyroid and thymus stand in close anatomical and physiologic relationship and there is a tendency to consider certain conditions, hitherto believed to be due to thyroid disturbances, as due primarily to thymic disturbances.

The question as to whether there is possibly a pure cachexia thymopriva, or thymic, is still open, though there are reasons for believing such conditions to exist.

As to treatment, until recently little could be done and the prognosis was unfavorable. Vegetable diet and calcium carbonate help. Adrenalin is to be tried. Thymus transplants in animals become partly absorbed and partly cystic after ten months, though at first they exert a therapeutic effect. Heredity, alcoholism, inbreeding and syphilis are apparently causes that play a rôle in these conditions of the thymus.

Pathology of the Thymus

Thymus blood cysts occur as sudden hemorrhage into congenital cysts of the thymus. These cysts are due to lues. The bleeding is usually due to a torn vessel in the cyst wall. The condition is diagnosed by visible bulging of the thymus into the jugulum and by signs of compression. See paragraph on surgical treatment.

In pulmonary stasis swelling with resultant hemorrhagic infarction of the thymus sometimes occurs, calling for immediate surgical intervention.

Acute thymitis as a primary process is unknown, but metastatic abscesses are possible, with swelling of the gland and compression signs. The diagnosis is made so late that surgical treatment (which is the only treatment to be recommended) gives little hope.

Pathologists describe a chronic thymitis. Syphilis affects the thymus sometimes by cyst formations and sometimes by causing epithelial proliferation, both of which conditions may cause sufficient swelling to demand surgical relief. Miliary tuberculosis involves the thymus, but otherwise tuberculosis is rarely seen. Even in the presence of tuberculosis of the mediastinal lymph nodes, it may or may not show involvement. Leukæmias, Hodgkin's disease and chloroma practically never occasion changes in the thymus.

Injuries are so rare that they need not be considered.

New-Growths

Tumors of the thymus are very rare indeed. It is interesting to note the marked relationship between neoplasms of the thymus and myasthenia gravis. Space does not permit of theorizing on this point, but the reader is referred to Ascher's experiments with muscle fatigue in the paragraph on physiology. The thymic tumors are classified as follows:

(A) Benign—lipoma, myxoma, dermoid and cystic tumors.

(B)—Malignant—sarcoma, carcinoma, metastases from elsewhere.

The tumors grow so slowly that they rarely cause tracheo-stenosis. They do press on neighboring veins and nerves and sometimes give rise to toxic symptoms which may lead to false diagnosis, such as Graves' disease.

The relationship to myasthenia gravis is mentioned above.

Hematology and Thymic Changes

Klose, in his excellent work, (Chirurgie der Thymus Drüse, *Neue Deutsche Chirurgie,* Vol. 3) reviews the literature as to the rôle of the thymus as a blood-forming organ and comes to the conclusion that it plays no active part in producing any of the blood cells. He cites experiments by himself and others where thymectomized dogs showed a progressive fall in the lymphocyte count, which was followed, however, by an increasing lymphocyte count after either intravenous injection of thymus extract or after implantation of the gland. He calls further attention to the low lymphocyte count reaching as low as 9% sometimes in cases with thymic aplasia, and to the high count of 80 to 86% in cases of hyperplasia. Also during childhood, the period of thymic activity, the lymphocyte count is higher than in normal adults. From this Klose concludes that the thymus and lymph systems are in close relationship, the thymus secretion stimulating the latter to production. He points out the possibility of using these findings in diagnosis and prognosis and also for a post-operative criterium as to whether sufficient or too much thymus gland was removed at operation.

It should be added that thyroid disturbances are associated with similar blood changes.

The Thymus and the Thyroid

It has been mentioned above that the thymus and thyroid stand in close relationship. Removal of one causes hypertrophy of the other, and hypertrophy of one is often associated with a similar condition of the other one.

Even in the majority of thyroidectomies for simple goiter performed by Klose an enlarged thymus was found, and the same investigator believes all cases of Basedow struma are accompanied at some time by enlarged thymus glands, the thymic hypertrophy in long standing and severe cases having given way to aplasia. The differential diagnosis between thymus hyperplasias in simple goiters and in Basedow goiters lies in part, according to Klose, in the lymphocyte count, which is high in the latter condition and low in the former one. Hart believed all cases of Basedow disease to be primarily due to the thymus, which is assuming too much, though undoubtedly the thymus participates actively in the clinical picture of Graves' disease.

Capelle and Bayer removed only the thymus from a severe case of Graves' disease, in which also an hypertrophied thyroid had been demonstrated. The lymphocyte count sank to normal, likewise the pulse-rate, and the palpitation of the heart ceased.

The same investigators produced an increased lymphocyte count by injecting dogs with thymus extract. Klose injected dogs with thymus extract from a severe case of Graves' disease. The ovaries had already been removed and after the injection the lymphocytes rose from 32% to 64.5% and severe Basedow intoxication also developed. From this Klose concludes that the abnormal thyroid secretion injures the ovaries and the resulting decrease in the internal secretion allows a hyperplasia of the thymus, which is antagonistic to the ovaries, and that the increased or abnormal thymus function brings about an increased production of lymphocytes and toxic symptoms. After thyroidectomy the dysthymism ceases only when the ovaries recover in the absence of the harmful thyroid action. Much quicker disappearance of the Basedow symptoms and return to normal lymphocyte count occur with thyroidectomy and thymectomy. According to Klose, we may draw only the following certain conclusions: the size of the lymphocyte count in Basedow cases indicates the extent to which dysthymism enters, and thereby indicates a primary thymectomy, in case the thyroid is relatively little enlarged and the heart-symptoms are severe. In this connection should be

added the demonstration of vagotony with a strong pilocarpine reaction or absent adrenalin action.

Since the introduction of deep X-ray therapy with the use of aluminum filters of 10 m.m. thickness, it has been possible to produce a marked decrease in the size of hypertrophied thymus glands without much danger from burns.

The difficulty in former times came from the fact that in order to apply a sufficient dosage to effect the enlarged gland it was necessary to give a sufficient amount to endanger the skin. The thick filter now in use has the power to prevent the passage of the actinic rays, even when a sufficient dosage is applied, for the required time to have the desired effect upon the enlarged gland.

Surgery of the Thymus

(A) In cases of hyperplastic thymus which cannot be relieved by the above treatment, whether in the young or adult, thymectomy is indicated if there have been grave signs or symptoms of tracheal stenosis or if there is ground for fearing the same. The operation must accomplish several effects, namely, mechanical relief, decreased secretion and stimulation to subsequent normal tissue regeneration. It has been observed that after thyroidectomy for Basedow's disease normal thyroid tissue may regenerate.

In adults it is better to use local anesthesia, and in children general anesthesia is preferable in case the anesthetic does not increase the dyspnea.

The technic is as follows: the head is put in the reclining position and a 6 c.m. transverse skin incision made at the level of the incisura of the jugulum. The fascia is divided longitudinally and the sterno-hyoid and sterno-clydo mastoid muscles are retracted on both sides from the median line. Then the deep neck fascia lying behind the sterno-hyoid is divided longitudinally, great care being exercised not to injure the veins in this fascia. This brings us to the pre-tracheal space into which either both lobes or just the left lobe of the thymus can be pulled by traction on the capsule.

Some surgeons complete the operation extra-capsularly by clamping the gland at its base and ligating. The gland should be cut far enough away from the ligature to prevent slipping, as it is almost impossible to arrest the resulting hemorrhage save by packing.

Klose condemns the extra-capsular method because of the relations of the capsule to large vessels and in some cases to the pericardium, and after exposing and delivering the thymus by the above method he opens the capsule and removes the gland from within the same. He then fixes the anterior capsule to the sternal fascia with silk sutures to prevent future compression on the trachea, packs the lower pole of the wound with gauze, which is left in for two days, and closes the various layers divided and the skin. He believes the drainage referred to has a marked effect in reducing the post-operative fever and reaction indicated by a rapid sometimes irregular pulse, nervousness, anxiety and sometimes intestinal disturbances. Other surgeons do not drain.

The prognosis of thymectomy for hyperplasia is good and the results are very satisfactory. The size of the resected portion varies accordingly to the increase in size of the gland and the symptoms produced. If in addition to tracheal compression there is esophageal compression, a large amount must be taken. Again if after removal of part of the gland dyspnea is observed to be persistent, more must be taken. According to Klose, the weight of the excised portion varies from 6 to 60 grammes. In extreme cases, Horse-Murphy, D'Olsnitz and Prat have combined excision with resection of the sternum and dislocation.

(B) Tumors of the thymus, if benign, should be removed by the above technic, if possible. Benign tumors resisting this method, and malignant tumors, are difficult and require splitting or resection of the sternum. The reader is referred to Sauerbruch's reports, who has had success with these cases.

(C) Thymus blood cysts require exposure of the gland and packing of the cyst. A puncture is of only temporary value.

(D) In case of hemorrhagic infarction, immediate dislocation of the gland is imperative. The technic described under (A) suffices.

(E) Abscesses of the thymus offer little hope, the process usually having gone too far, causing supuration in the mediastinal space by the time the diagnosis is made. The procedure indicated varies from resection of a lobe to resection of the sternum.

(F) The swelling sometimes found due to syphilis may require surgery, the technic of which is like that described under (A). This should, however, be employed only after carefully conducted antiluetic treatment.

(G) Thymus neck fistulæ can be treated successfully only by surgery, for injections, etc., are likely to inflame rather than cure. The indications for operation are relative. The operation, to accomplish results, must remove radically the whole tract involved, a difficult procedure when we consider that the tract extends from the sternum through to the tonsillar region. The common carotid and vagus are in the field; the tonsils must be removed, and even partial resection of the sternum and hyoid bone may be necessary. The procedure is a serious one and should not be attempted except for sufficient reasons, for instance, the presence of cysts associated with the fistula.

Danger of Incorrect Diagnosis

in

Ovarian Hemorrhage, not due to New-Growths or Pregnancy

With Report of Two Cases

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A Short and Practical Paper

Abdominal hemorrhage is a grave condition and requires serious and prompt attention. To know clearly where the bleeding is from, and consequently to know how to proceed, is always a pressing question—a question of life and death. Dr. Bubis differentiates ovarian hemorrhage from the usual entities it is often confused with. It goes without saying this short and practical paper is well worthy of consideration and should not be overlooked.—Editors.

ALTHOUGH OVARIAN hemorrhage is not a condition rarely found, it is one which is only too often incorrectly diagnosed. Very often it simulates a ruptured extra-uterine pregnancy or a fulminating appendicitis as the following case would suggest:

Miss M. J., aet. 22 years, engaged to be married, was admitted to Mt. Sinai Hospital complaining of general abdominal pain especially marked in the lower right abdomen. Previous history was negative, except that a toxic goitre had been successfully removed two years before the present admission. The patient suffered from occasional attacks of indigestion and frequent constipation. No urinary disturbances were present. Menstruation, which had begun at 13 years, was of the 28-day type, normal amount, lasting from four to five days, often accompanied by slight pains, and preceded for three or four days by a marked leucorrhea. During the last three periods, however, the patient had suffered severe pains in the lower right quadrant of the abdomen, which radiated to the epigastrium.

The present illness began at 7.30 P. M., after she had been menstruating about two days. The flow had been less than usual. While entering an automobile, she was suddenly seized with a severe cramp in the lower right abdomen, felt nauseated and chilled, followed by a severe tremor. A physician was immediately called and an attack of acute appendicitis was considered. The symptoms gradually became worse, and the temperature rose to 101° F, at 9 P. M., when she was sent to the hospital. A blood test showed 4,500,000 red cells, and 22,000 white blood corpuscles. The urinary and physical examinations were negative, except for the severe muscle spasm and rigidity in the lower right abdomen. The hymen was intact and the rectal examination was unsatisfactory on account of the excessive pain and rigidity.

She was immediately prepared for operation. Under nitrous-oxide-oxygen and anoci anesthesia, a McBurney incision was made and a slightly congested appendix was removed. A small amount of chocolate colored fluid appeared on the tape as it was removed from the abdomen. Further investigation showed a cystic, adherent mass about the size of an egg lying to the right of the uterus. The mass was liberated and proved to be an enlarged cystic ovary, filled with chocolate colored fluid, which was escaping through a rent. The ovary was removed, and the peritoneal cavity was sponged dry. The left adnexia were examined and were found to be normal. The abdomen was closed without drainage. Recovery was uneventful, the temperature dropping to normal on the fourth day.

The pathological report by Dr. C. E. Swanbeck showed a mild exacerbation of chronic catarrhal appendix. The ovary showed an increase of fibrous tissue with slight thickening of the blood vessels as is found in a chronic oöphoritis.

Occurrence

Ovarian hemorrhage may occur at any time from birth until menopause, but rarely after, unless due to some growth. Sampson (1), states that this condition is most common between the ages of 30 years and the menopause. Schumann (2), had three unoperated cases in adolescent girls in their early menstrual period. The following history is fairly typical of such a condition.

"A normal, healthy girl, at the expected date of her fourth menstrual period, suddenly developed a severe pain in the lower right quadrant of the abdomen accompanied by signs of rapid, mild shock and fainting. She rallied in a few hours. The pain, however, became worse and the rigidity, tenderness and distention of the abdomen increased. Her temperature

was 101° F. He was consulted 24 hours after a diagnosis of appendicitis had been made. Rectal examination demonstrated a tender doughy mass in the right cul-de-dac, which in view of the patient's age and history, induced him to make a diagnosis of ovarian hemorrhage. Under expectant treatment she made a complete recovery, and several months later no pathology could be palpated."

Etiology

Willson (4) states that the sudden cessation of menstruation from a "cold," accompanied by severe pain, so common in young girls, is a cause of ovarian hemorrhage, chronic oöphoritis following infections, sexual excitement, traumatism, hot douches or baths at the menstrual period might be predisposing factors.

Pathology

Bovee (3) states that there is no other organ in the body which is so frequently the seat of hemorrhage as the ovary.

Increased connective tissue, which occurs in chronic oöphoritis following infection of the ovary, frequently prevents the rupture of a Graafin follicle and retains it as a cyst. This is illustrated by the following case:

Mrs. O., aet. 31 years, 1 para 2 years old, appeared at the Out-patient Department of Mt. Sinai Hospital, complaining of pains in the lower left abdomen for the past three months, which was worse during the menstrual period. She also suffered from constipation, leucorrhea and sacral backache. General physical examination was negative. On bimanual examination the cervix was found to be lacerated with the cervical lips everted. This caused an endocervicitis with the resultant leucorrhea and slight thickening of the bases of the broad ligaments. The uterus was slightly enlarged, in good position and freely movable. The left ovary was about twice the normal size, tender, prolapsed and adherent. The other adnexa seemed negative. The operation consisted of a dilatation and curettage, trachelorrhaphy, appendectomy for a chronic appendicitis, and left oöphorectomy for an adherent enlarged ovary.

At the distal end of the ovary, a ruptured corpus luteum was present; the cortex was thickened and covered with adhesions. In the center of the ovary was a thick-walled cyst, the size of a hickory nut, which was filled with a dark brown blood clot."

Undoubtedly there is some intra-peritoneal bleeding whenever the corpus luteum ruptures, but it is not excessive, because the process is slow and not violent. Nature, moreover, has time to prevent and protect the excessive flow by sealing or covering the corpus luteum with the fimbria of the tube. The increased coagulability and exudation of peritoneal fluid may also help to seal the torn capillaries.

Schumann (2) calls ovarian hemorrhage a functional error, i. e., an excess of bleeding from the wall of the mature Graafian follicle.

Wolf (5) divides ovarian hemorrhage into three types (1), interstitial; (2), follicular; (3), intra-follicular, in various combinations; while Savage (7), states that the hemorrhage is either from the Graafian follicle or from the corpus luteum.

Novak (7), states that primarily it begins as a perifollicular type and that it then breaks into the follicle. Microscopically, a proliferation of the normal perifollicular vessels with marked degenerative arteritis was found by Schumann in his cases.

Symptoms

Schumann tersely sums up the symptoms and clinical picture by stating that they are simply characteristic of a sudden intraperitoneal hemorrhage, more or less in amount, usually associated with acute pain in one or both iliac fossae, although in a few cases, the initial pain may be entirely absent. Distress becomes apparent when the irritating effect of the free blood into the peritoneal cavity produces a dull, generalized abdominal ache. There usually follows some abdominal distention, elevation of temperature, moderate leucocystosis, rectus rigidity, and, in the general, the syndrome of the "acute abdomen." Recto- or vagino-abdominal examination will show an enlarged tender ovary or a tender doughy mass, due to the presence of blood, adhesions and inflammatory reaction.

Diagnosis

Appendicitis, ruptured extra-uterine pregnancy, acute salpingitis, ulcer of the intestine and ingestion of poisons must be differentiated. Especially in the case of a virgin, or a widow, or in a medico-legal case, extra-uterine pregnancy must be ruled out by microscopical examination. Bovee found microscopical evidence of pregnancy in 17 cases out of 29 examined, while Caturani (8), found 85 in 100 cases. A correct diagnosis is seldom made before operation or post mortem. A thorough, pains-taking history, blood count, recto- or vagino-abdominal examination will aid in the diagnosis.

Prognosis and Treatment

This depends on the early recognition of an "acute abdomen," and treating it as such. The patient, however, must be carefully watched, preferably in a hospital where blood counts, etc., can be repeatedly done, and if the condition does not materially improve within a reasonable time, a laparotomy should be done. If indicated, a blood transfusion will help to tide the patient over the acute anemia and strengthen her resistance to shock and infection.

Conclusions

1. Ovarian hemorrhages *per se* are more common than is generally believed.

2. This condition may occur at any time between birth and the menopause, often at the early menstrual periods.

3. An acute appendicitis or a ruptured extra-uterine pregnancy often simulates this accident.

4. A positive diagnosis cannot be made without a microscopical examination.

5. Expectant treatment in a young girl, operative interference in older ones and married women, will probably give the best results.

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An Interesting Case of Acromegaly and Lymphatic Leukemia

Observed over Period of Eleven Years

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Studied Thoroughly and Presented in Detail

Few diseases are as puzzling as acromegalia is. For some obscure reason, the pituitary body "goes wrong," becomes disturbed, appears to overfunction, and the skeletal tissues, like wild weeds, begin to thicken, enlarge, grow and overgrow. Both body anatomy and body physiology become perverted, controlless, helpless and hopeless. Dr. Goldstein's case of acromegalia, complicated by lymphatic leukemia, studied thoroughly and presented in detail, is illustrative, interesting and instructive. It is one of the diseases rarely met and the paper should attract unusual attention.—The Editors.

MR. JACOB R. S., white adult male, aged (at present) 43 years. Married. Wife and one child living and well. Wife's first pregnancy resulted in miscarriage. First saw this patient in 1911. At that time he was an active barber and apparently in good health with the exception of very slight disturbances in vision and occasional headache. Past history unimportant. Family history negative. Father living and well. Now aged sixty-six years. Mother just died (1921) from strangulated hernia. Four brothers living and well—none dead. Two sisters living and well. One little infant sister dead. Patient has been married about sixteen years. His only child, a girl of twelve, living and well, except that for many years she has had frequent attacks of epistaxis. Patient has weighed in the past few years as much as 200 pounds. His present weight is 188 pounds. In 1900 he was a fairly tall, slender, normal man. Photograph at this age is here presented. In 1911 his chief complaints were as above mentioned, those of slight disturbance in vision and slight headaches. The history of the case during the next few years was more or less that of progressing acromegaly.

The first evidence of trouble that the patient noticed was the fact that a ring worn on the little finger of the right hand became so tight that it had to be cut off. Then he found that the cutting scissors he was using in his work in the barber shop became too small for his thumb and fingers. He then noticed that he had to wear a larger hat, collar and shoes. During 1913, 1914, and 1915 he had developed into a typical acromegalic. His nose became large, his lips became thick and prominent, his tongue became broad and thick, his speech altered, the forehead became prominent, especially above the eyes, the lower jaw became very large, and his skin became thick and slightly of a sub-icteroid tint. His hand became spadelike and the fingers took on the shape of sausages. At present his left wrist measures 7½ inches, his right wrist 7½ inches in circumference; from the right wrist to the tip of the middle finger, 8 inches. The right middle finger measures 4 inches from the metacarpal head to the tip. The circumference of the middle finger at the middle joint is 3¼ inches. The circumference of the hand around the middle of the palm and back of the hand is 9 inches. And 8½ inches around the middle joints of

the four fingers kept close together represent a typical large spade-like hand. The circumference of the head over the posterior occipital protuberance and above the superciliary ridges is 24⅛ inches plus, size of the collar, 16½. The chest across the nipples at rest is 41¼ inches; circumference at the base of the chest, 42¼ inches; circumference of the abdomen over the umbilicus, 40½ inches; circumference of the trunk over the right shoulder and under the right buttock, between the thighs, 64½ inches. His height is 69½ inches. Inside leg measurement is 31½ inches. Measurement from the vertex of his head to the symphisis pubis is 38¼ inches; from the symphisis pubis to the floor, 34½ inches. In other words, his torso is about 4 inches longer than his leg measurement. The length of the foot is 11½ inches; circumference of left ankle, 10¼ inches; width of the tongue, 2¾ inches; nose from the bridge to the tip, 2⅝ inches long. Measurement from the tip of the third finger of the right hand to the tip of the third finger of the left hand with arms outstretched, is 71½ inches. Length of right arm is 30½ inches; circumference of ear, 8 inches.

Mr. S. was admitted to Dr. Frazier's service at the University Hospital on April 6, 1915. He was there about a week. At this time *urine analysis* showed 1.012 specific gravity, a few hyaline casts present. No. R.B.C.'s, occasional W.B.C., acid reaction, no sugar, no albumen, cylindroids present, amount 1600 c.c. This specimen of urine was examined after the ingestion of 100 grams, no glucose. *Sugar tolerance test*—after 100 grams, no glycosuria, after 200 grams, specific gravity 1.012, no sugar, amount 1.000 c.c. X-Ray examination by Dr. H. K. Pancoast showed slight enlargement of the sella turcica.

Blood—R.B.C. 4,780,000, W.B.C. 20,400. Hb. 85%. Polys. 67%. Lymphocytes 27%. Large monos, 4%, Eosinos. 2%. T. B. Holloway (April 18, 1916) reported the eyes as negative.

On the 12th of April, 1915, he was discharged from the University Hospital. This time I was giving him thyroid extract tablets, one grain t.i.d. May 4 1915—complains of increasing weakness in the limbs, dizziness, and very giddy on "bending over," and headache. May 17, 1915, complains of a knocking noise in the head and back of the neck, numbness of the fingers, slight cough. May 26, 1915, fingers become blanched and cold "like a dead man's fingers." Pain in the nape of the neck still complained of. June 26, 1915, headache, tires quickly, dizzy on bending over, pain across the eyes.

January, 1917, right turbinate congested and swollen, septal deflection; except for a slight cold in the head, he feels pretty good. During 1916 and 1917, he complains of disturbances of vision, noises in the ear, particularly on lying down, and pains in the knees. He also has an uncomfortable sensation in the eyes, some hoarseness.

July 8, 1916, eyes examined by Carl Williams, University Hospital, showed retinal veins rather full, other conditions normal. No evidences of increased pressure. During this time he was taking pituitary extract 3 grains and thyroid extract 1 grain in capsule two or three times a day.

October 20, 1916, no changes in the condition of the patient were noted. Pressure symptoms were very slight. He complained of lack of ambition, getting tired quickly, and some uncomfortable pain and sensation across the forehead and between the temples.

In May, 1918, he was referred by me to Dr. Thomas B. Futcher, Baltimore, who kindly admitted him to his service at the Johns Hopkins Hospital. He was at this hospital from May 20, 1918, to May 28, 1918. His complaints at this time were headache, numbness and peculiar sensations in the hands and feet, numbness of the fingers and appearance of dead-white blanching "spasms" resembling a dead man's fingers. At this time the *blood examinations* showed R.B.C. 3,752,000, W.B.C. 26,280, Hb. 78%. The differential count showed very interesting changes. The polymorphonuclears were reduced to 38%, and the small lymphocytes were increased to



No. 1—Patient in normal health.

50.3%. Subsequent leucocyte counts continued to show a rather marked lymphocytosis for which at this time there was no definite explanation. Dr. Futcher stated that the differential count in his experience was unusual in acromegaly. His blood pressure was low, systolic 110, diastolic 70. This is contrary to findings in some of the more ad-

vanced cases where the patients not infrequently have signs of arterial sclerosis with some increase in blood pressure. *Roentgenograms* of the skull and skeleton by Dr. Pearson showed (a) head—large sella with marked protraction of the lower jaw—acromegaly; (b) hand—changes usually associated with acromegaly.

Sugar Tolerance Test

The patient showed no spontaneous glycosuria, but as is our regular custom we always carry out a Sugar Tolerance Test by giving 100 grams of glucose in solution in the morning, on a fasting stomach, and then take the specific gravity and examine each separate voiding during the day of the test for the presence of sugar. The first specimen voided after the glucose was given showed a faint reaction for glucose. The specific gravity of this specimen was 1.020. The specific gravity of the specimen voided before the test was 1.011. The result of this test was that at the time that it was made patient showed a lowering of his carbohydrate tolerance, as a normal individual takes 100 grams of glucose without sugar appearing in the urine.

This test would tend to indicate the patient was still in the hyperpituitarism stage of acromegaly, when the sugar tolerance is lowered. In the later stages, in hypopituitarism, we usually find that the tolerance for carbohydrates is markedly increased; this accounts for the increase in the amount of subcutaneous fat that we get at this later stage of the disease.



No. 2—Well developed acromegaly (10 years) and lymphatic leukemia (14 months).

Examination of Visual Fields

There was some general contraction of the fields for all colors, but there was no hemianoposia such as one sees in more advanced cases, with "neighborhood symptoms" of pressure.

In a letter to me Dr. Futcher stated: That he and Dr. Dandy examined the patient, that he thought probably the condition present was teratoma of the pituitary; that the posterior clinoid processes

were broken off; that he thought the patient was now in the stage (1918) of hypopituitarism and advised the use of posterior pituitary extract; that he has an increased tolerance for carbohydrates and that he advised against hypophysectomy, at present, and that secondary anemia was present.

For a period of four or five years or more, or until about two and a half years ago, the patient had lost his sexual power and had no sexual desire. During the past two years his sexual desire and sexual function has returned to normal, the same as it was before he became ill.

Early in 1920 I first noticed some general glandular enlargement. The spleen at this time was palpably enlarged. October 10, 1920, there was marked general lymphomegaly and the spleen was very much enlarged, extending almost to the midline at about 2½ inches below the costal margin. He complained of pain in the right anterior chest, shortness of breath, weakness and excessive sweating. He had complained of sweating and some headache for several months previously, that is, during the entire summer of 1919. His blood pressure has always continued to be low, varying from 105 to 110 systolic, diastolic 80. He presented no ocular symptoms and no headache in October and none since then. January 13, 1921, examination of his eyes by Dr. de Schweinitz at the University Hospital, showed no ocular trouble. He has had no deficieney of central vision and his visual field was full. (No hemianopsia.) His pupils were unequal but reacted to light and accommodation. There was no atrophy of the discs. Repeated blood Wassermans have been negative.

February 2, 1921. He used to wear 7½ shoes. Now wears the widest 10-E. Used to wear a 15-size collar, now wears 16½. Hat is now 7¼ inches, formerly the proper size of his hat was 6⅞. He now tells me that at the time that he first became sick, he began to notice pricking and sticking sensations over the forehead and became nauseated and vomited for about two years, aggravated when riding in a trolley car. However, he does not have this trouble at present and has not had it for a number of years. At present he has no headache and no ocular symptoms. He has a large pad of fat at the base of the right chest, in the axillary line. The lymphomegaly is quite marked. He has a huge chest of the emphysematous type, and fluoroscopic examination shows marked emphysema and huge posterior mediastinal glands.

February 5, 1921. *Blood examination* by Dr. Herbert Fox, Pepper Clinical Laboratory, University Hospital, reports Polys., .66%. Young small lmphocytes, 9.66%. Small lymphocytes, 78.66%. Large lymphocytes 2%. Transitionals none. Basophiles none. Large mononuclears 2%. Unrecognized 6.66%. Very many pink masses which may have been cells or bits of clots are seen. The masses called unrecognized cells had some form which the other did not have. There was considerable anisocytosis. No nucleated cells seen.

February 7, 1921. *Blood examination* by Dr. A. I. Rubenstone, Mt. Sinai Hospital, Philadelphia, showed hemoglobin 80% (Sahli). R.B.C. 4,240,000. W.B.C. 85,800. Polys. 1%. Small lymphocytes 97%. Large monos. 2%. Many degenerated white blood cells present. Some anisocytosis. Blood Wasserman negative. Blood sugar 0.23%. One week later white blood count showed 100,800, Polys. 4%, small lymphocytes 96%. Many degenerated white blood cells, blood platelets 100,000. Blood chemistry—blood urea .018%, blood urea nitrogen .008%, blood sugar .023%. *Urine analysis,* morning specimen—S.G. 1.009 acid reaction, faint trace of indican, albumen, sugar, acetone, negative, occasional W.B.C., occasional epithelial cells, some amorphous urates. Night specimen, S.G. 1.017, acid reaction, albumin, sugar, acetone, indican absent, some amorphous urates, no casts.

February 22, 1921. Urine S.G. 1.014, albumin, bile pigments, sugar, casts, all absent. Occasional mucous threads and a few leucocytes and squamous cells present.

March 1, 1921. *Blood* examination by Miss E. A. Healy. R.B.C. 3,500,000, W.B.C. 89,000. Hb. 70%. Color index 1%. Differential count, polys. 4%. Degenerated lymphocytes 22%. Small lymphocytes 70.8%. Large lymphocytes 3.6%. Transitional 0.4%, Eosinophiles 0.2%.

X-Ray Examination

Dr. Mulford K. Fisher, roentgenologist, Philadelphia, examined this patient very carefully, making complete X-Ray films of the skull, chest, hands, feet, and teeth. Fluoroscopic examination of the chest showed enlargement of the ribs and emphysema. The heart shadow was normal or rather small compared to the size of the patient. Huge posterior mediastinal glands were evident, resembling a huge aneurism back of the heart.

Patient's large size of hand now is very striking. The whole hand is greatly widened, much thicker than normal, and the fingers are wide and typical sausage-like in appearance.

As soon as one looks at him, the attention is attracted to the enlargement of the face and head, particularly the marked prognathism, enlarged nose, prominent molar bones and large thick lips. The distinct evidence of thickening and enlargement of the frontal bone is clearly demonstrated—the marked protuberances over each eye due to the enlargement of the orbital arches and frontal sinuses are plainly seen. Slight kyphosis is present. The bones of the

pelvic girdle and long bones of the extremities, as well as those of the shoulder girdle, do not seem to be especially involved, but are still larger than normal. It appears that the entire skeleton is symmetrically enlarged, while the face, hands, and feet show disproportionate enlargement, the eyes show nothing especially abnormal. Hearing is normal. Speech is a little thick, slow, and heavy. This is probably due to the marked enlargement of the tongue, prognathism, enlarged tonsils (huge), and pressure on recurrent laryngeal nerve, and "acromegaly" of the larynx.

Physical examination of the chest shows a heart of about normal size but a distinct emphysematous chest and evidence of marked enlargement of the posterior mediastinal nodes. Fluoroscopic examination of the chest shows beautifully the emphysema and enlarged glands. The ribs are huge in size, with distinct evidence of increase in compact bone. Patient, at present at least, shows no pressure symptoms. His appetite is very good. Further detailed description of my case is really unnecessary. The photographs taken before the beginning of his illness, and after the condition became advanced, speak for themselves.

March 4, 1921. Dr. Leon Jonas, of the Pepper Clinical Laboratory of the University of Pennsylvania, reported to me that the metabolic rate of patient was 20% above normal. Another estimation of the basal metabolism was done in October, 1921.

The early symptoms of acromegaly are generally those related to the osseous structure characterized by little change in the shape of the nose, and general prognathism characterized by a more massive appearance of the lower jaw, with separation of the teeth and broadening of the fingers. There may be headache. These, of course, are due to the tumor or change which involves the anterior lobe of the pituitary. The earlier symptoms of hypopituitary stage of acromegaly manifest themselves by increase in the amount of adipose tissue, owing to the increased tolerance for carbohydrates. This results from pressure of the tumor of the anterior lobe pressing on the posterior lobe, interfering with the hormone there produced, and which has a bearing on carbohydrate metabolism. In the early stages, the pressure simply irritates the posterior lobe and spontaneous glycosuria may result.

On March 7, 1921, the patient was admitted to Dr. Alfred Stengel's service, University Hospital. Here he was seen and studied by Doctors O. H. P. Pepper, R. Kern, and Ford.

March 8, 1921. *Blood.* R.B.C. 3,420,000; W.B.C. 82,000. Hb. 80%. Differential—Neut. 3%, Lymphs. 95%, L.M. 1%, and myelocyte 1%.

Urine. 1.021; faint trace albumin. Occasional hyaline cast. No sugar.

March 10, 1921. Eye examination by Dr. Holloway (University Hospital). No ocular palsies. Pupils equal, rather small, react but moderately to light, accommodation and convergence. Discs nearly round, not atrophied, no changes characteristic on retina. Dr. Holloway has seen him off and on since March 22, 1915, and has never found any evidence of intraocular changes. Before referring him to the University Hospital, I did a *phenolsulphonphthalein* renal function test—(February 27, 1921) (intramuscular), which showed 25% first hour, 25% second hour, 50% total for two hours.

On February 28, 1921, a lymph gland removed from the left axilla, and examined by Dr. Herbert Fox, Pepper Clinical Laboratory, University of Pennsylvania, showed leukemic hyperplasia.

March 10, 1921. *Blood sugar:* Fasting—.091%; one hour after taking glucose .142%, two hours after glucose .1%, three hours after glucose .105%.

Urine: No sugar (negative glucose tests). Few hyaline and granular casts (5-10); 1.015 S.G., trace of albumin, trace of mucus, no R.B.C., few cylindroids; acid reaction.

Question of the Leukocytosis

Now it is interesting to note that a study of the blood during 1915 and 1916, showed a nearly normal picture—of about 4,800,000 R.B.C., W.B.C. 12,000, hemoglobin 80-90%. Polys. 67%. Lymphs. 27%. Large monos. 4%. Eosins. 2%. The white blood cells, however, even at this early period showed a tendency to a distinct increase up to 20,000. The W.B.C. count while at the University Hospital in 1915 being as high as 20,000, although the differential count was apparently normal in all respects. The question arises, was this leucocytosis the beginning of a leukimic change, an early transition stage, or was it due to some focal infection, or the pituitary pathology. In 1918, while at the Johns Hopkins Hospital, the blood picture had changed considerably, but no definite explanation could at that time be given. The blood examinations then showed R.B.C. 3,750,000, W.B.C. 26,000, Hb. 78%. The differential count showed a marked reduction in the polymorphonuclears to 35% and a distinct increase in the small lymphocytes to over 50%. For an uncomplicated acromegaly this is an unusual blood picture. Was this, then, a beginning of the leukemia (without evidence of lymphomegaly and splenomegaly)? I do not know—possibly this may have been the explanation of the blood changes that were noted by Dr. Futcher in 1918, in his careful study of the case. During the past ten or twelve months, the marked changes in the blood pictures—with a white count varying from 80,000 to 115,000 and a lymphocytic percentage of 90-97%—and the huge spleen and lymphomegaly left no room for doubt

that this was a case of leukemia in an acromegalic (advanced). Whether there is more than a mere coincidental association between the two conditions in this case, I am not prepared to state.

March 11, 1921. X-Ray examination of teeth by Dr. H. K. Pancoast showed abscess of right lower, second (anterior) molar, left upper second bicuspid, right upper first molar suspicious. Pyorrhea. March 12, 1921. Basal Metabolism study was made by Dr. Leon Jonas in the Pepper Clinical Laboratory and showed 4.4% above normal (up to 10 above and down to 10 below normal is considered without much significance and given as a normal estimation of the basal rate).

Jaccoud's dissociated fever sign and (fever with a slow, irregular pulse in T. B. meningitis of adults) Pel-Ebstein's fever sign are absent.

Lymph node examination, by Dr. Herbert Fox, Philadelphia. Section cannot be recognized as lymph node. Well encapsulated by a firm acellular capsule. Marginal sinus either pressed shut or occupied by lymph cells, section is made up of a fairly even distribution of adult lymph cells and small blood vessels with a small amount of fibrous tissue around them. Gross trabecular, follicles, cords and sinuses are absent. Lymphoid cell is only one present in the cell mass proper. No fibrin, tubercles or pigment present. Fibrocellular connective tissue absent. Leukemic hyperplasia of lymph node.

March 11, 1921. Blood—*Oxidase stain:* W.B.C. 85,000. Differential—Polys. 5%; Lymphs. 94%; Myelocyte 1%. Blood Wasserman-test-negative. No glycosuria after sugar tests. (153 gms. of glucose.) Weight, 188 pounds. Twenty-four-hour specimens of urine tested for sugar gave negative results for one week.

March 16, 17, 18—received X-Ray treatments over the long bones (femur and tibia) of both legs.

March 16, 1921. Dr. H. K. Pancoast, roentgenologist, University Hospital, Philadelphia, reports marked enlargement of the mediastinal glands. Dr. Pancoast states that this patient presents more mediastinal involvement than any other case of lymphatic leukemia he has ever seen.

March 17, 1921. Blood: R.B.C. 4,880,000; W.B.C. 116,000. Differential—lymphocytes 96%. Neutrophiles 4%. Hemoglobin 90%. Patient feels comfortable. Appetite good.

January 4, 1922. *Blood Count*: W.B.C. 27,000; Large degenerated lymphocytes 78%; Large lymphocytes 9%; Small lymphocytes 7%. Polys. 6%.

Mr. S. was admitted to the Jefferson Hospital, Philadelphia, in Dr. Stewart's service November 17, 1913, and discharged December 9, 1913. He complained of cold hands and feet, and severe pain in his hands. Enlargement of hands and nose were noticed by his wife. She stated "his nose was getting larger and larger." General examination was negative, except for the acromegalic changes. Heart and lungs, negative. Slight separation of lower teeth in neighborhood of right lower canine. No separation of upper teeth.

November 19, 1913. *Urine:* clear. Acid. Very faint trace albumin. No sugar. Urea 1.6%. No crystals; few amorphous urates; few epithelial cells; pus 30-40 to field; no R.B.C., no tube casts. The above notes were taken from the charts (D. 2956, Medical Histories, J. M. C. H.) of the Jefferson Hospital.

No. 14297 Roentgenogram of skull, showed true acromegaly, selle turcica is 7/8 inch long and 7/8 inch deep. Posterior clinoid processes somewhat atrophied.

November 29, 1913. *Eye Report:* The vision =20—30. The pupils react to light convergence. The tension is normal. Ocular movements are unimpaired. Ophthalmoscopic examination is negative. (J. C. Knife, M.D.)

Laryngological Report. November 29, 1913. Patient has deflected septum and large submerged tonsils, which are operative (Dr. B. Kyle). Temperature was somewhat subnormal getting down to 96.2°, and hovering between 96.2° and 98°. On two or three occasions the temperature reached normal or very slightly above. Respiration rate varied between 22 and 24 per minute. It is interesting to note that while the temperature ran a subnormal curve, the respiration rate was slightly above normal. Urine voided—800-900 c.c.

Dr. Philip Hawk did metabolic test during November 26, 1913, to November 30, 1913: He was given Thyroid Extract gr. III t.i.d. at the time of his discharge.

His second admission to the Jefferson Hospital occurred on April 20, 1914, and he was discharged May 2, 1914. He was at this time put in Dr. Solomon Solis-Cohen's service.

Chart No. D. 5918, May 20, 1914. Examination shows pupils react normally. Lips thick and protruding, chin prominent. Upper and lower incisors separated. Mouth clean. Thorax normal. Heart and lungs normal. *Spleen not felt.* Liver not palpable. Blood culture (April 25, 1914), negative Temperature curve was down to 96° and running between 96° and 98° F. Respiration rate at 24 per minute. Pulse 110-120. At this time he was voiding urine in fairly large quantities: 900, 1350, 1700, 1100, 1450, 1300, 1950, 2200, 2800, and 1900 c.c.

Chart E, 5574. Third admission to Jefferson Hospital on March 15, 1915; discharged March 20, 1915. In Dr. Francis T. Stewart's service. History notes state that in 1911 he felt his fingers becoming numb and had difficulty in tying string and using scissors and razor. A small ring on finger had to be filed

off. His head was getting larger. In February, 1915, he began to have headache (occipital). General weakness complained of and gets tired quickly. Somewhat hoarse. No sexual desire.

Measurements of head: Occipito-frontal, 19 cm.; sub-occipito-bregmatic, 17 cm.; maximum of head, 28 cm.; bi-temporal, 13 cm.; bi-parietal, 15 cm.; bi-mastoid, 14 cm.; fronte-mental, 14 cm. *Nose:* Nasal cavity enlarged. Deflected septum to left side. *Throat and mouth:* Lips thick. Tongue large, broad and long. *Teeth* separated. *Epiglottis* very large and "beefy." Arytenoids very thick. All tissue around them thickened. Dr. Kyle believes the impairment of the voice is entirely due to a mechanical interference by the overgrowth of new tissue.

Eyes: November 10, 1913. O.D. media and punctae negative, March 8, 1915. Marked concentric contraction of both fields.

Spleen and liver: Normal—not palpable.

Urine: March 16, 1915. Clear amber. S.G. 1.010. Acid. No albumin. No sugar. Urea 1%. No R.B.C. No casts. *Blood Wasserman* March 17, 1915, negative. *Roentgenogram* No. 19911, two plates. March 16, 1915. Sella turcica is considerably enlarged. Clinoid processes are very prominent. Typical acromegalia. Temperature 97-98.4° F. Pulse 90. Respiration 20-24. Urine: 600, 1050, 2000, 1700, 1000 c.c.

Dr. D. N. Husik, of Philadelphia, made an examination of the nose and throat on March 25, 1921. His report is as follows:

> *Nose* shows deflected septum towards the left showing the lower right side of the nasal fossa as a large cavity, the middle turbinate on the same side is very much hypertrophied. The faucial tonsils are hypertrophied but clinically look healthy. There is a large lingual tonsil at the base of the tongue. *Examination of the larynx* shows enlarged and thickened epiglottis. The two vocal cords are very much thickened and pinkish in appearance, the right cord being more injected than the left. The right false chord is more enlarged than the left and overlaps the true cord. The arytenoids and aryepiglotic folds are both slightly hypertrophied. His hoarseness is due to the increased thickness and chronic inflammatory condition of the true cords and not to an actual mechanical interference.

Dr. A. J. Casselman reported a differential count March 5, 1921, as follows: Small lymphocytes 76.6%, degenerated broken cells 14%, polymorph. leucocytes 6%, myelocytes 1%, large lymphs. 2%, eosinophiles 0.2%, transitionals 0.2%.

Dr. David Riesman recently had a case of acromegaly in a negro at the Philadelphia General Hospital. (John Davis, Autopsy No. 5645, October 27, 1920.) Autopsy performed by Dr. Crawford. The patient was a colored man aged 43 years, admitted to the hospital October 25, 1920, died the next day from catarrhal (lobular) pneumonia and acute myocarditis. Culture of heart blood—streptococcus viridans.

Pituitary showed a tumor composed of cells of anterior lobe origin—of edematous type. Adenoma. Chronic luetic meningitis. Brain weighed 1350 gms. —was examined by Dr. Winkelman. The pituitary was markedly enlarged, cystic, and the size of a small plum, and was distinctly adherent to the floor and sides of the sella and had to be dissected away. The pituitary fossa was distinctly shallow and much widened. When the pituitary was removed it was found that it had flattened the optic commissure to the thickness of paper. Patient weighed 250 pounds. Head 25" in circumference; eyes prominent; tongue large. Height 5'9". Large prominent cheek bones. Lips are very thick. Lower jaw rather large with prominent chin. Chest is very large. Hands and feet acromegalic.

Roy, Woods Hutchinson, Schütte, Jeffroy, Caselli, Dana, Bramwell, Bassoe, Matignone, and the autopsies performed by Buday and Jamesco and others, also demonstrated the intimate relationship existing between these two conditions. Finally, Brissaud and H. Meigs state that acromegaly and gigantism are one and the same disease. If the bony overgrowth occurs in adolescence and youth, the result is gigantism and not acromegaly. If the overgrowth occurs later on, acromegaly results in combination with gigantism. In other words, "gigantism is the acromegaly of the growing period; acromegaly is the gigantism of the period of completed development." Launois and Cesbrow distinguish between the infantile giant and the acromegalic giant.

General Considerations

In acromegaly, an interesting question arises as to whether there is perversion or abeyance of pituitary function. The fact that the gland is enlarged, even of hyperplastic or adenomatous character, does not prove that there must be hypersecretion or hyperactivity. Similar evidences occur in cases of myxedema and cretinism. Louis Comte (Ziegler's Beiträge, 1898), concludes from the examination of over 100 miscellaneous cases that the pituitary and thryroid act vicariously. Some authors have reported increased activity of the pituitary after excision of the thyroid, and pathological observations point to the same conclusion. Boyce and Beadlea (*Jour. of Path.* March, 1892) described pituitary overgrowth in two cases of myxedema. Boyce and Beadles also include an example of cretinism in which, in confirmation of the previous observation of Niépce ("Goitre et Crétinisme," Paris, 1851), and one of Bourneville and Bricon (Archiv. de Néurologie,

1886), they found the pituitary enlarged.

In pregnancy, and during menstruation, both the thyroid and the pituitary undergo a temporary enlargement, and may even give rise to some visual disturbances. Maximilian Sternberg (*Speciele Path. and Therap. Band.* vii, Thiel 2, 1897), has shown how various are the pituitary lesions that may be associated with acromegaly. Shattuck concludes that the problem of acromegaly shows the importance which attaches to the altered physiology of affected pituitary and that "it has passed into the domain of chemical physiology."

The absence of symptoms that have been noticed by observers in cases of tuberculous and syphilitic disease, or of certain benign or malignant tumors of the pituitary, is due to the fact that none of these lesions are necessarily so destructive of the gland tissue as to entail a complete abeyance or perversion of its function, any more than they are in the case of the thyroid. (Shattuck.)

Course and Duration

The onset of the disease may be delayed or it can be precocious, and we may have acromegaly in children, or in adolescents. Beaver Blake reported a case in a young negro; Valdés-Surmont reported a case in which the first stigmata appeared at fourteen years. Virchow (1889) saw a case in a girl aged eleven years. Moncorvo reported a case he had seen in a girl fourteen months old. (He does not believe this to be a congenital case.) With the exception of the twelve or fifteen cases of acute acromegaly on record (sarcoma or carcinoma of the pituitary, prehypophysis), the duration of the disease varies from eight to thirty years. In malignant cases life has been destroyed in three or four years.

Established acromegaly is usually seen in adult males or females. The initial dystrophic phenomena appears at the age of 18 to 28 years. In my case, the ring on the little finger became too small, and had to be cut off, the scissors handle, which he used in his work as a barber, became much too small, then he had to buy a larger sized hat, shoes and collar. The first thing noticed was the ring on the little finger, which became tight. Later he had some vague pains in the head and peculiar sensations in the hands. Oftimes it is the headache which brings the patient to the doctor. Others, as in my case, notice their hands and feet grow larger. In women, the menstruation may become irregular or cease altogether, as the first symptom. Launois and Cesbron believe that acromegaly is more frequent in women than in men.

Diagnosis

The bilateral enlargement of the extremities and the enlarged head and face are characteristic. The long, oval face, the macroglossia, prognathism, reverted and thickened lips, prominent malar bones, hypertrophied nose, the prominent forehead (superficial ridges), the gigantic proportions of the body, the humped back (in advance cases), the visual disturbances, neuralgic pains, and paresthesiæ in hands and feet, the polyuria, hyperidrosis, polydipsia, somnolence, weakness, diminution of sexual function, headaches, and finally X-ray examination of the skull, and the increased blood sugar and changes in the sugar tolerance test, which may be observed in certain cases, all point to the diagnosis of acromegaly.

The condition is to be differentiated from pulmonary hypertrophic osteo-arthropathy, Paget's disease (osteitis deformans), localized acromegaly, arthritis deformans, myxedema, Virchow's leontiasis ossea, erythromelalgia, syringomyelia, adiposis dolorosa (Dercum), stigmata of rickets and the lymphatic diathesis, cretinism (from youthful acromegalia), dystrophia adiposa-genitalis, Basedow's disease (simple gigantism) and tabes dorsalis (in the early stages of acromegalia).

Ponfick, Huebner, and Gerhardt reported a case of probable acromegalic gigantism in a child aged four years. This is one of the youngest cases on record. Thayer in his paper discusses acromegalia and hypertrophic osteo-arthropathy.

Harlow Brooks in his article on acromegalia of 221 pages, and an excellent review of the literature from 1886 to 1898, reports three autopsies of cases of acromegaly, one in a gigantic female, another in a female aged thirty-seven years, and a third in a man aged thirty years.

Prognosis and Treatment

The prognosis, of course, is always bad. There are no cases of complete recovery on record, although one of Timme's (New York) cases, recovered after a cyst ruptured. In many cases the progress of the disease appears to have been arrested. In other cases, there is an absence of symptoms to a remarkable degree. In my case, there is at present no headache, and no visual disturbances; eyegrounds are normal, although the sella-turcica is enormously enlarged. His sexual power has returned to normal, and has been so for the last two years, after being impotent for a period of four or five years. He even questioned the advisability of his wife having another child, and wished to know whether he would transmit any hereditary taint to his offspring should his wife become pregnant.

Direct hereditary transmission has been observed by Cyon, Bonardi, Schwoner, and Fränkel and a few others. Friedrich claims to have observed the stigmata of acromegaly in brothers. Schaffer reported a case of transmission from mother to daughter.

The treatment is chiefly symptomatic. X-ray treatment over the pituitary body may be tried. Operation followed by radium treatment may be

advisable in some cases for the relief of severe pressure symptoms of a serious character. The administration of pituitary extract with or without thyroid extract, or thyroxin and tethelin may be considered. The use of a capsule containing ergotin gr. i, arsenic 1/25 or 1/30 gr. and quinin. hydrobromate, grains v, three times a day, has been recommended by Sajous and others. In case of impotence and associated hypogenitalism suprarenal cortex may be given in doses of one or two grains of the extract three times a day.

Conclusions

1. A case of acromegaly with lymphatic leukemia that has been under observation for over ten years, is reported by the author.

2. The unusual features of the case are the absence of pressure symptoms or "neighborhood symptoms," the loss of sexual power, for a period of six years or more, followed recently, for the past two and a half years, by a return of all sexual power, desire, and function; the occurrence of lymphatic leukemia, with splenomegaly and lymphomegaly for the past sixteen months.

3. Improvement followed Roentgen-ray treatment to the spleen, lymph glands, pituitary and long bones.

4. No other case of acromegaly has been found recorded in the literature, associated with *leukemia*, and such large sella turcica and without ocular disturbances, or any pathological changes in the eye-grounds, and with a normal basal metabolic rate.

Review of the Literature will appear next month.

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A Thorough History an Important Factor in Syphilis

Author's Abstract.

The introduction of the Wassermann reaction as a means of diagnosing the presence of syphilis made many physicians feel that it was no longer necessary to take the trouble to obtain a thorough personal history for the patient under examination. Therefore, since 1906, when the Wassermann test first came into general use, the obtaining of an accurate history has been given less and less attention.

The author believes neglect to get an accurate and complete history is a very serious oversight and that implicit dependence on "the Wassermann" very often leads to grave errors in diagnosis, and that these may extend not only to the management of the case but also to serious imputations upon the moral character of perfectly innocent persons. He cites several cases of his own where dependence upon serum reaction alone would have led to very serious blunders, and believes that such incidents must be common in the practice of others, whether specialists or general practitioners.

The examining physician must use tact and discretion in obtaining the history, but he must be firm and insist upon getting full details, impressing upon the patient the importance of "making a clean breast of it," in order that complete and rapid cure may be effected. The physician's attitude must be always one of scientific detachment, and moral and social considerations banished from the patient's mind as far as possible. If a patient refuses to give the necessary facts the wise practitioner will be justified in refusing to treat the case.—C. J. Broeman in *American Journal of Syphilis*, 5: 565, October, 1921.

Formaldehyd Test for Syphilis

The value of this test lies in its simplicity. Blood is drawn in the usual manner as for a Wassermann test. At the end of twenty-four hours the serum is decanted from the test tube into another clean but not sterilized test tube; a drop of ordinary commercial liquor formaldehyd is added, and the tube plugged with cottonwool. The serum and formaldehyd are allowed to remain at ordinary room temperature for twenty-four hours. At the end of this period observation is made as to the condition of the serum. Coagulated serum is a positive result; fluid serum is a negative result. Suffern endorses the method as being of value.—*J. A. M. A.*, from *Lancet*, November 26, 1921.

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A Case Illustrating a Method for

THE RADICAL CURE OF VARICOSE VEINS

THE PATIENT, Miss D., whom I wish to present to you as one suffering from varicose veins, has been affected with a progressing enlargement of the veins of both lower extremities for some years.

I have chosen the subject of varicose veins for discussion today because my attention was most forcibly drawn to this condition during the war. First at Val Cartier, then on Salisbury Plains, then in France and, lastly, when conscription was being enforced in Canada I was impressed with the number of young men who were suffering from this condition. Men who, apparently, were otherwise perfectly normal were unfit to serve the King. I saw and shared in many operations performed to relieve this condition and I saw many patients debarred from military service because of it. For this reason I heard with very great interest of the work of Dr. John Homans, of Boston, on a day on which I happened to pass through a clinic being given at the Montreal General Hospital by my colleague, Dr. E. M. Eberts.

With avidity, then, I sought the publications of Dr. Homans (Surg. Gyn. and Obs., 1916) and after studying these arranged to visit his clinic in Boston with the hope that I might learn enough to be prepared to do my part in making of service some of those who were unable to take their part in the Great Struggle.

Gentlemen, may I then draw your attention to Dr. Homans' observations quoting verbatim as far as possible extracts from his publications.

The veins of the legs are divided into two systems: The deep, among the muscles and well supported by them, and the superficial, lying in the subcutaneous tissues, and supported only by skin, superficial fascia, and fat. Of these two systems the former is considerably the more capacious and obviously the less liable to disability, while the latter, though it probably carries much less blood, is more exposed to trauma and derives far less support from the tissues outside its own vein walls. The two communicate by what are called *perforating or communicating vessels,* in which the valves are so set that blood can normally flow only from the surface veins to the deep. These perforating vessels, which vary considerably in number and distribution, offer, therefore, a safety valve for the superficial system.

The surface veins may again be divided into two sub-systems, the great or internal saphenous, and the lesser or external saphenous. The great saphenous vein, after gathering radicals from the front and inner side of the foot and lower leg, passes upward, generally as a straight single trunk, inside the knee, along the inner anterior surface of the thigh, and into the femoral vein at the saphenous opening. The small or external saphenous vein drains the back and outside of the foot and leg, and empties in the popliteal space into the popliteal vein. It frequently communicates with its more important companion and, like it, is subject to considerable variation.

All the veins of the extremity are furnished with filmy, delicate, bicuspid valves.

The arrangement of valves in the perforating veins, as has already been stated, allows of blood-flow toward the deep vessels only.

Etiology

For all practical purposes a varicose vein in the lower extremities may be described as merely a valveless vein or more properly a vein whose valves are incompetent. Having in mind this fact, one may obtain from a study of the circumstances under which varicosity becomes established and a knowledge of the pathological changes which necessarily ensue, an explanation of the various forms which varix assumes and a rational basis for treatment.

The most obvious cause of the breaking down of the valves is hard work, by which I mean carrying or lifting heavy loads for long periods, as in the case of longshoremen, freight handlers, and laborers. The tension upon the abdominal muscles, the downward push of the diaphragm in violent breathing, in fact, the same strain which produces hernia, lays a heavy load upon the veins of the legs. Whether the valves become useless through stretching of the vein walls or are directly broken is immaterial. The occupations which involve standing for long periods without moving the legs are, in a lesser degree, a source of valvular incompetence, and

this not from excessive back pressure but from stasis due to lack of muscular movement. Among women, the venous engorgement of the legs so often seen even early in pregnancy may, finally, after the birth of several children, result in varicosity. I have also seen, in young men, and in young women who have never borne children, instances of varix which date from childhood, apparently due to congenital abnormalities. All these etiological factors tend to produce the well-known, large, surface varicosities.

Pathology

It seems to be true, without going into the more minute pathological anatomy, that varix may assume one of two principal forms, depending in a general way upon whether it results from overstrain and stretching of the vein walls, or from phlebitis. In the first case, the valves gradually become functionless, the vessel walls stretch until their nutrition is impaired, muscle-cells become replaced by inelastic scar-tissue, the vein becomes tortuous, local areos distend into pockets, calcification sets in, and indeed, all the variations commonly observed in scar-tissue, ill-nourished and under tension, are likely to occur. As the onset of these changes is naturally gradual, effective collateral circulation corresponding to the degree of stasis in the main channels is frequently established, and true varicosity is often confined to the trunk and principal branches of the great saphenous vein.

The ulcers which occur under these circumstances are almost without exception in direct relation to the varicose vessel or vessels. They are said to "ride" upon veins, occurring almost exclusively in the lower and middle thirds of the lower leg. Fundamentally their occurrence seems to be due to a chronic irritation of the skin associated with stasis of impure blood in the vein beneath, as attested by the pigmentation which so commonly precedes them, but a frequent contributory cause is undoubtedly trauma, and the form which they ultimately assume must depend greatly upon the degree of infection which follows their establishment.

The perforating vessels do not usually share in the varicosity of the large tortuous veins. In many instances they continue for years to fill their rôle of safety valves, carrying the stagnant blood from the surface veins into the deep system which is well able to care for it. When, however, they in turn become dilated the surface circulation becomes the more embarrassed in that blood may now pour out from the deep veins to the superficial. Under the circumstances ulcers are particularly prone to occur and that over areas independent of the veins themselves.

The first and more common variety of varicose vein is, then, dilated, sclerotic, tortuous, often sacculated and calcified. It is not necessarily associated with very noticeable changes in the nutrition of the leg, owing to the effectiveness of collateral circulation and the preservation of the useful perforating veins. Ulcers when present usually "ride" upon the principal varicose trunk. In the more advanced cases, particularly when the perforating veins have become incompetent, the general nutrition of the leg may be poor, and ulcers may develop over wide areas.

Classification of Varicose Veins

For purposes of treatment it is best to divide varicose veins into two groups: (1) surface varix, and (2) surface varix complicated by varicosity of the perforating veins. In the first category belong the large majority of instances of gradual dilation and incompetence, and in the second, not only some of the more advanced cases of similar etiology, but almost without exception the cases of varicosity arising suddenly from phlebitis. Certain simple diagnostic measures distinguish these groups, which may, and usually do, demand characteristically different treatment.

Clinical Tests

The methods by which the true nature of varicose veins was first effectively demonstrated were devised by Trendelenburg, who showed that in varix there is nothing to prevent a back flow of blood in the veins, and actually measured the pressure which the long column of blood exerted against the vessel walls in the leg. The tests devised by Trendelenburg are easily performed. The leg is raised and held above the level of the heart until the veins are empty. It is then rapidly lowered when the blood can be seen to flow back into the leg and suddenly distend the surface vessels. This test for varicosity may be positive even when the reflux cannot be seen to distend the vein walls, for if the veins are so sclerosed that no change in the tension of their walls can be noted by the eye, it can quite readily be felt by the fingers.

By such means, valvular incompetence of the surface veins as opposed to hypertrophy or distension of normal vessels can be diagnosed, but still more information may be derived from a variation of the same simple procedure. Suppose it has already been determined that the surface veins allow a free back flow. The leg is now raised and the veins emptied of blood. If, before it is lowered, a constriction only firm enough to compress the surface vessels, as by a piece of bandage, is made about the upper thigh, blood cannot flow from above into the varicose superficial veins, and until they are filled by the natural circulation they remain empty.

This, French writers *have* called the contre-épreuve of the Trendelenburg test, and it confirms the diagnosis, for on releasing the constriction, the empty or partially filled veins become distended with

a palpable shock. But this procedure tells even more. Suppose the perforating veins share the varicosity of the surface vessels. The blood in the deep veins will then be able, as normally it cannot do, to leak into the surface vessels, and in applying the constriction test it will be found that in spite of the prevention of back flow down the superficial veins, these fill rapidly below the constriction. That is to say, blood is finding its way out from the unobstructed deep veins through incompetent perforating vessels to the surface. In varicosity of the surface veins alone, filling below the constriction takes place in three-quarters of a minute or more and even then these vessels may not be very tense, for the perforating veins are continually carrying off the excess of blood. If, on the other hand, the perforating veins are incompetent, the surface vessels will fill below the constriction, possibly in ten, twenty, or thirty seconds, according to the importance of the leak.

These two tests, which I shall hereafter call respectively the Trendelenburg test and the constriction test for perforating veins, serve to separate the cases of pure surface varicosity from surface varicosity complicated by varicosity of the perforating veins. The tests ignore the possibility of varix of the deep venous system, a very rare condition if indeed it is ever fully developed.

Surface Varix

Distinguishing features:

This condition is distinguished by the demonstration of a free back flow down the surface veins (a positive Trendelenburg test) and by the failure of the lower surface veins to fill in the application of the constriction test for incompetent perforating vessels (a negative constriction test), on the performance of the second test three-quarters of a minute to a minute is taken as the normal filling time for the varicose surface veins below the constriction. A more rapid filling indicates some incompetence of the perforating channels. In some cases of pure surface varicosity, however, the superficial veins never fill completely below the constriction, apparently because they are effectively drained by the communicating veins. Such cases are often distinguished by a single enormous tortuous, great saphenous trunk passing from groin to ankle, but even in instances of very general surface varix the effectiveness of the collateral circulation and perforating channels in caring for the stagnant surface blood is often surprising.

Operative Procedure in Surface Varix

Relatively simple surgical measures may be employed to cure pure surface varices, and the least radical of these is the so-called Trendelenburg operation. The original operation was a simple ligation of the great saphenous vein in the thigh and was intended to relieve the veins below the ligature of back pressure due to the long column of stagnant blood. It has been modified into the excision of a short piece of vein between ligatures in order to prevent the re-establishment of a channel, and this excision is performed as close as possible to the saphenous opening. The main trunk of the great saphenous may even be divided in several places, cutting it up into a number of isolated segments in which the blood soon organizes and obliterates the lumen.

The Trendelenburg type of operation is to be advised as a palliative measure in instances of varicosity of the great or lesser saphenous veins only when the perforating veins are proved to be competent. Inasmuch, however, as the great vein is not actually removed and not necessarily obliterated, there is always a fair chance of recurrence through the re-establishment of its channel by the aid of collateral circulation or by the formation of new veins in the scar-tissue separating the ends of the divided segments. Therefore the operation should only be performed upon the aged or infirm, or perhaps to tide a young person over a difficult period, or indeed, merely to heal an ulcer temporarily. An analysis of the results of this operation in the hands of various surgeons shows an anatomical recurrence after five years in 60 to 70 per cent. of the cases, but with symptomatic recurrence in only 20 to 30 per cent.

The radical operation, and one to be advised for the cure of the common surface varix without the involvement of the perforating vessels, is Madelung's full excision of the great saphenous vein.

The radical removal of the surface veins is perhaps most satisfactorily performed upon the following plan: A transverse incision several inches long is made in the groin about an inch below Poupart's ligament. Through this incision the great saphenous vein is divided at the saphenous opening. At the same time any other veins which lie parallel to it or enter from above are found and divided in order to do away with any vessels capable of re-establishing a large, single, collateral trunk. The internal saphenous is then dissected out with the Mayo stripper or other appropriate means down to the region just below the knee. At this point open dissection should begin, for here the larger branches of the great vein begin to enter it, and, though breaking the long column of blood by removal of the internal saphenous from groin to knee is likely in many instances to cure, it is always advisable carefully to dissect out the varicose vessels of the calf down to the point where they appear small and harmless. This is most easily done by a long incision to the

deep fascia, turning back thick flaps of skin and fat, and dissecting the veins from inside the flaps.

The fulfilling of the second requisite, the cure of the ulcer, depends for its success principally on the accomplishment of the first, that is, the complete removal of the veins. It is often advisable, however, in removing the largest veins to take with them what may be called their tributary ulcers. Moreover, as was first pointed out in this country by the Mayos, if in association with the ulcers there has been found a very thick impenetrable base of scar-tissue, it is almost always necessary, in order to secure healing of the ulcers, to remove with them down to, or better, through the deep fascia the mass of scar-tissue beneath and about them; otherwise the poorly nourished tissue may harbor a leaking perforating vessel not disclosed by the tests and may never permanently heal. In consequence of laying bare this often enormous area, an immediate skin graft (Thiersch preferably) completely covering the denuded surface should be performed, and it is notable that such grafts "take" well upon fat, fascia, or even periosteum.

In this respect the method of making thick flaps of skin and fat is particularly useful, and rather than exert much traction on the flaps it is always better to make a transverse incision at the lower end of the long wound, half way round the leg if necessary, in order to secure greater ease of dissection.

Surface Varix Complicated by Varicosity of the Perforating Veins

Distinguishing Features. The cases falling under this head differ very considerably from each other in appearance. Varicose vessels may be numerous and prominent, or few and almost invisible. In the second instance the patient's discomforts are strikingly greater than the apparent degree of varicosity warrants. Ulcers, particularly in those whose circumstances prevent them from nursing their ailments, are common. The constriction test shows that the surface vessels fill rapidly below the constriction by way of the varicose perforating channels. Nevertheless the findings may be difficult to interpret.

Paradoxical Law of Varicose Veins

Straight, small, thick walled veins of the postphlebitic type are almost unnoticeable, yet the lesions which habitually mark their presence—ulcers, edema, atrophy of the skin—are obstinately resistant to treatment, and it may perhaps be stated as a law, that the less noticeable the veins, the more malignant and resistant the accompanying ulcers, and the more radical and thorough must be the curative operation. Large tortuous surface varicosities are gradually established, perforating vessels and collateral circulation are then usually competent, ulcers if present ride on veins, and cure is usually easy. On the other hand, the varicosity of the small sclerosed surface vessel is rapidly established by inflammatory processes, collateral circulation is ineffective, perforating veins are almost invariably crippled, disturbances in the skin are widespread and severe, and cure is correspondingly difficult.

Operative Procedures

In simple surface varix it is seldom necessary to do more than remove the great saphenous vein from the groin to mid-calf. In surface varix complicated by varicosity of the perforating veins, not only must the great saphenous be eradicated but many of its branches in the calf must be followed and excised in the search for incompetent perforating channels. If these channels are not ligated they will continue to remain a source of venous stasis, and inasmuch as they are frequently found beneath ulcers in the center of great masses of scar-tissue, their removal is generally as difficult as it is imperative.

All such operations require the usual transverse incision below Poupart's ligament, and resection of the great saphenous vein in the thigh. When the lower leg is not so densely indurated as to forbid free dissection of the calf, large, thick flaps should be turned back after the method of Madelung to expose the deep fascia of the front and inner side of the leg. The surface veins are dissected from the internal surface of the flaps and in this dissection the varicose perforating vessels are likely to be found (I have never recognized in the calf more than three, seldom more than two). They are tied beneath the deep fascia.

In some instances, however, the whole leg below the knee is so edematous, indurated, and covered with ulcers that not only is the resection of the principal surface vessels a difficult matter, but the turning back of the skin flaps for thorough dissection is impossible.

Indeed, it is wisest if the operator has the confidence of his patient, after doing away with the great saphenous vein above the knee, to work up the leg, making multiple incisions at several sittings, picking up and tying one by one the varicose perforating channels as one paisses up the leg after the method of Novaro. In any case the object of the operator should be, I believe, to abolish the continuity of all surface veins of any considerable size, and to find and divide, or at least cut off from the surface circulation, the varicose perforating veins. If this is accomplished the superficial circulation is carried on by small vessels emptying probably by way of devious connections in the thigh. The skin of the lower leg may perhaps remain edematous but ulcers will not tend to recur. The operator must keep in

mind that tissues served by almost invisible channels are better off than those drained by a varicose vessel.

Dr. John Homans' conclusions are thus enumerated by him:

1. Varicosity of the veins of the legs is confined for anatomic and physiologic reasons to the superficial and perforating vessels.

2. Trendelenburg's tests distinguish between pure surface varix and surface varix complicated by varicosity of the perforating veins, a distinction important for purposes of treatment.

3. Surface varix is curable, by relatively simple surgical procedures, preferably excision of the great saphenous vein from groin to mid-calf.

4. Surface varix complicated by varicosity of the perforating veins requires for its cure not only eradication of the great saphenous vein but a thorough exploration of the lower leg in order to ligate varicose perforating veins.

5. Varix following phlebitis is not uncommon, presents a characteristic appearance, is prone to be complicated by varicosity of the perforating veins, and is usually accompanied by obstinate ulceration soon after its establishment.

6. It is a very general rule if not a law, that the more prominent and tortuous the surface veins the simpler the cure: the less noticeable the surface veins the more malignant and resistant their attendant ulcers and the more radical the operative procedure required for cure.

7. Varicose ulcers, if of long standing and especially if they are surrounded by an area of thick scar-tissue, are best treated by free excision and immediate skin graft in connection with the radical removal of the veins to which they are tributary.

The war is over but the necessity for making men and women fit remains. Varicose veins and ulcers are common and are often almost as distressing as common. To those of you, then, who have patience to study and work for the comfort of individual cases I would strongly recommend the valuable contributions of Doctor John Homans, of Boston, especially that published in the *Journal Surgery, Gynecology and Obstetrics,* February, 1916.

Cystocele and Prolapse

Robert Earl, St. Paul (*Minn. Med.,* December, 1921), in conclusion, says:

1. The uterus is maintained at its normal level in the pelvis by its ligaments; because of the elasticity of these ligaments it has a considerable range of motion.

2. The pelvic diaphragm when in normal condition prevents the intra-abdominal pressure from stretching the supporting ligaments of the uterus.

3. That any operative procedure for the cure of prolapse or cystocele should aim to restore to as nearly a normal condition as possible the normal supports of the uterus and bladder.

4. That the alteration of the normal relationship of the pelvic organs or their fixation to the abdominal wall should be measures of last resort.

Treatment of Two Empyema Cases

Substantiating Dr. Mackenzie Forbes' Fourteenth Clinic

By Geo. E. Nour, M.D.,
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About twelve years ago I reported, to the readers of the Medical Council, two cases of empyema, which occurred in infants of two and three years of age respectively. Now the reading in The American Physician, September, 1921, of "A Case of Empyema," brought to my mind two very severe and hopeless cases of empyema, which occurred in my practice in the early part of 1919, and I take the liberty to report the same to readers of The American Physician, with the object of substantiating the views experssed in "A Case of Empyema," under treatment by aspiration. Following are the two cases:

Case No. 1

Mr. N., about fifty years of age, married, resides in a small village in Mt. Lebanon, situated at a distance of five miles from the seashore and about six hundred feet altitude. The village lies southeast of my native town, Batroun (a little town on the seashore). The journey of five miles was made partly on foot and partly assisted on a little worn out donkey, which had survived the war and its privations. On reaching the patient's home, which was devoid of all furniture and most necessary household utensils, I found the patient lying on a bed on the floor of a dark house full of dust and dirt. The bed and coverings were almost in rags, and above all this misery and discomfort was added the smoke from the fire, which was being burnt to heat this large and empty house, so that if one's eyes did not water from emotion and sympathy, they surely did from the effect of the smoke.

The patient was examined and diagnosis of empyema was made and proved by the hypodermic needle and an aspiration was performed immediately with a 20 cc. hypodermic needle. The needle was left in the chest every time the pus was aspirated and hypodermic barrel emptied. This was continued for fifty minutes and about two liters of pus were removed. The empyema was on the left side. The heart was displaced to the right chest with apex beat under the right nipple; but soon returned to right of xiphoid cartilage after operation. A tonic was administered and next day the same operation was repeated and about three more liters of pus removed, whereupon, the apex beat approached the normal position.

Two days later the patient was brought down to Batroun and a consultation by Drs. Zaeni, Bafoul and Aboud was held, all agreeing to the necessity of resection and drainage.

Dr. Zaeni operated and I assisted. Dr. Zaeni opened a space between the eighth and ninth ribs, anterior and posterior to axillary line, and about two liters of pus were withdrawn. Drainage tube was inserted, cavity washed with a solution of tr. iodine and water and then with sterile water. The washing was repeated every twenty-four hours. Patient practically recovered within three weeks after the operation, but died three months later from galloping tuberculosis.

Case No. 2

A youth of about eighteen years of age, from a village ten miles distant from Batroun (Abdilli), was carried over boards and brought to the American Red Cross temporary hospital, of which I was in charge (1919-1920). The little patient looked like a barrel, face, head and body swollen. I administered strychnine and aspirated with the same hypodermic syringe, about four liters of pus, the next day over five liters and the third time over three liters more. The empyema was on the right side. Patient improved rapidly and in a few days was able to stand the journey to Beyrouth City, where he was sent to the headquarters hospital of the American Red Cross and made a rapid and uneventful recovery.

Importance of the Internal Secretions in the *Treatment of Asthma*

OPPOSITE VIEWPOINT FROM LEADING EDITORIAL, DECEMBER ISSUE

TO THE EDITOR:—

Your editorial in the December issue on "The Daylight and Darkness of the Asthma Problem" strikes me as no answer to many problems that this disease presents.

Allow me to state first, that since my third week on this earth I have been a victim of this "toxic idiopathic manifestation." Have studied, experimented, tested and failed with most of the things that have had their day in the past thirty years. Adenoids, turbinates, tonsils and teeth have gone to the altar of this disponæic god of respiratory difficulty, and today the terrible attacks continue, not as of old, but they are there, with every hour of "daylight or darkness."

Perhaps it was the milk in the mother's breast that was tainted, but the fact remains that never since that date have I spent a night in that same room without an attack. Going back to the grandparents, the disease is marked in the male and female sides of both, with my own father carrying on the transmission to his heirs. I cannot believe that anaphylaxis, as applied to asthma, is much more than a good guess; certainly it will not work out in more than ten per cent. of the cases in Illinois. There is not a thing in the etiology to which I could not ascribe some one of my attacks, no season of the year that I could not lay the cause of the trouble to with as much certainty as in the average case.

The renal function, I believe, has an important place in troubles of this nature, but above all there is an imbalance of the secretions of the ductless glands, and this is so vicious that a stated treatment is impossible. Until late in life I had always considered myself lucky to go two months without an attack, but due to the use of glandular extracts I have been able to go as long as three years without an attack and when there was one there was always some way of finding the cause through some deficiency in some of the glandular secretions. So firmly do I believe the trouble lies in this direction that I believe as soon as our physiological chemists can determine the normal condition of the blood and be able to ascertain the lack of the glandular elements in the blood stream, that then the solution of this vexed question will be reached and the hundreds of sufferers relieved. That day is not far away and the progress toward a solution of the ills of the asthmatic is rapidly nearing the goal of perfection.

I am treating a number of asthmatics at present and find that each one has the one thing that is peculiar to his case; however, all do well on the glandular extracts. Those with renal symptoms do best on thyroid; this applies as well to the cardiac cases, so called. Hygiene, diet, elimination of nerve strain and worry, and the glandular extracts properly used, will cure or relieve the majority of the cases. How long would you give the glandular extracts? Just as long and as often as there is an imbalance of the glandular secretions manifest in the patient.

As in the case of a recently examined case of cretinism, I would keep up the thyroid just as long

(*Continued on page* 134)

Some Common Forms of Nasal Obstruction *in the Adult*

PRODUCES MANY DISEASED CONDITIONS

L. F. Long, M.D.,
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Examine These Cases Carefully

A deviated septum does not call for operation unless ventilation and drainage are interfered with. Also it is important to carefully examine these cases and institute proper treatment since nasal obstruction causes great discomfort and produces many diseased conditions.—The Editors.

SOME FORM of nasal stenosis, either unilateral or bilateral is exceedingly common, and we will consider the results of chronic nasal obstruction, a few of which are:

Chronic nasal catarrh which predisposes to tubal catarrh with resultant deafness.

Sinus disease by blocking their drainage.

Post nasal, pharyngeal and laryngeal catarrh which predisposes to tubercular infection of upper respiratory tract.

Closure of the lower opening of nasal duct causing lachrymal troubles which are often probed without results.

Impairment of the quality of the voice.

The whole process of metabolism is interfered with because of the mouth breathing not to mention the discomfort produced. When these results are considered, nasal obstruction should be actually looked after and corrected. The diagnosis in the majority of cases is not difficult, if a careful examination is made.

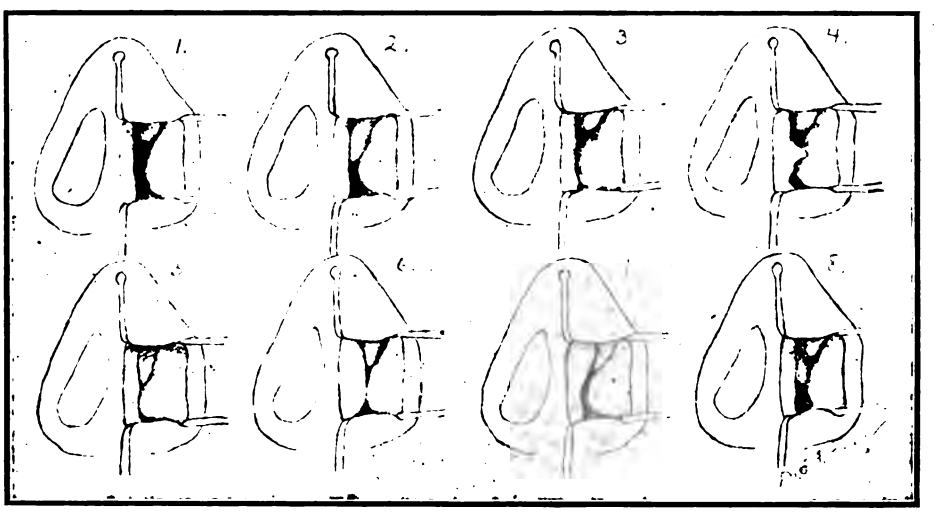
The illustrations in this article cover the most common types of nasal obstruction.

No. 1. Shows a nasal cavity about normal.

No. 2. Hypertrophy of middle turbinate. This is a serious obstruction because it interferes with ventilation and drainage of the sinuses and the upper part of the nasal cavity often interfering with, or even abolishing the sense of smell.

Treatment is the removal in part or entire of the enlarged turbinate, sufficient being removed to give free nasal respiration.

No. 3. Hypertrophy of the inferior turbinate.—Is not so serious as No. 2, as it does not obstruct drainage and ventilation to the same extent, but often does interfere so that it should be reduced by cautery or a small piece removed. This turbinate should be spared as much as possible because of its physiological function.



(Original lead pencil drawings by the author.)

No. 4. A septal spur which impinges on the turbinate and keeps up a constant irritation, and also obstructs the air passage to some extent.—Spur can easily be removed with a saw.

No. 5. Hypertrophy of both middle and inferior

turbinates, completely blocking the cavity. Middle turbinate should be removed and the inferior should be reduced.

No. 6. Deviated septum, crowding over against the turbinates producing obstruction. Should be corrected by sub-mucous resection of the septum.

No. 7. Shows another form of septal deviation, producing obstruction of the upper part of the cavity. Sub-mucous resection would correct it.

No. 8. Shows appearance of polypus, which looks much like a bubble of mucous. This should be removed with the snare and the base cauterized.

It should be remembered that a deviated septum is no indication for operation unless ventilation and drainage are interfered with. Knowing that nasal obstruction causes great discomfort and produces many diseased conditions, it is important that we carefully examine these cases and institute the proper treatment—and anything short of free nasal respiration is inadequate—and not simply prescribe Seilers sol. or something similar without making a careful examination. Any surgical procedure necessary for the removal of nasal obstruction can be done very readily under local anesthesia.

Therapeutic Essentials in Acne

By Edward J. Lorenze, M.D.,
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Treatment So Often Fails

So often does the treatment of acne spell failure that we gladly publish the short paper of Dr. Lorenz, giving the therapeutic essentials of this disease—a disease as troublesome to the physician as it is to the patient.—Editors.

ACNE IS AN acute or chronic inflammation of sebaceous glands and periglandular tissue, caused by lack of hygiene of skin, focal infection, lack of endocrine balance (as shown by occurrence at puberty, menstruation and masturbation), faulty digestion.

Treatment

First give proper local attention to the skin by washing same with hot water and a good soap, using a coarse washcloth. Follow with very cold water and dry thoroughly. This should be done thoroughly every morning, and a simple washing at bedtime. All comedones should be removed with comedone remover, after first using hot soapsuds. The writer uses a thymol, soft soap and spirits of wine mixture, as follows:

Thymol, dr. 1.

Sapo mollis spiritus vini rect. aa oz. 1½ each, M. et sig.

Use externally once or twice a week by rubbing one minute on part, blond skin perhaps less, following immediately with very hot compresses and very cold water or cake of ice (to tone up periglandular muscle fibres, thus closing gland). All pustules and indurations should be cut diagonally, with a small, narrow, sharp-pointed knife, and contents expressed, afterward cleansing with pure peroxide, 1 per cent chlorazene solution, iodine or 50 per cent ichthyol solution.

Dietary

Avoid the four P's (pork, pickles, porridge, pastry) also fried foods and cheese. Regular action of bowels should be secured by free use of cold water, fruits, bran and abdominal massage, dilating the anal sphincter and if not successful, resort to a sulphur laxative, such as Epsom Salts, or the laxative waters. I do not use mineral oil.

General Hygiene

Simple life, summed up in regular meals, frequent baths, early hours; omit cigarettes and late suppers, correct masturbation, get plenty of outdoor life.

General Medication

Brewer's yeast, salol strychnine, bacillus bulgaricus, calcium sulphide, hexamethylenamine, iron, according to indications.

Local Medication

Zinc and calamine lotion or sulphur lotion. In the very indurated and scarred faces, a weak ointment of the red oxide of mercury.

Special Measures

Treat the accompanying seborrhoea capitis with tar soap shampoos and the use of a resorcinol hair "tonic." Stock acne vaccines or an autogenous vaccine may be of value. Pelvic congestion should be overcome by hot douches, recumbent posture, hot enemas, local massage, ergot, etc. Attend to diseased tonsils, tooth sockets and sinus disease. High frequency current and light doses of x-ray, given with care, have occassionally given the author very good results.

An Efficient Future for Medical Practice

Medical organization and practice, to promote *efficiency*, requires *two* things:
1. That the public make the *fullest* use of *efficient* practitioners.
2. That medical men receive adequate income to provide the means and methods *necessary to efficiency*.

These two things are *interdependent*.

This department is conducted as a *forum* for *constructive discussion* of these vital factors in *medical progress*.

Coordinating the Work of the Family Physician *and the Hospital.*

THE GREAT CHANGE IMPENDING IN THE PROFESSION

Competition vs. Constructive Co-operation

Can there be any doubt that in the "Family Physician" with his traditional relation to the rank and file of solid industrious people we have the health factor of most fundamental importance? Have we any evidence that institutional medicine or state medicine can adequately fill his place, effectively perform his function?

Which points the way to medical progress: an attitude of competition toward the general practitioner on the part of modern collective medical agencies—the hospital, etc.; or an attitude of constructive co-operation through properly and fairly co-ordinated effort to the end that the health interests of all the people may be most effectively served and in a manner satisfactory to them?—THE EDITORS.

THE NEW POSITIVISM is a great philosophy being developed by medicine and the physical sciences and in agreement with the dictum of Prior, "One single positive, you know, weighs more than negatives a score." The old positivism was a way of thinking that regarded nothing as ascertained or ascertainable beyond the facts of physical science, or those things cognizable by the senses. Comté was the great apostle of positivism, who made phenomena his god, excluding all metaphysics and philosophy, as well as all knowledge of the supernatural. All knowledge, he claimed, proceeds by three stages: first, the theological or supernatural; second, the metaphysical; third, the positive. He aimed at a utilitarian altruism based wholly on positivism. Yet, strange to say, he finally returned to a sort of theology which admitted neither a revelation nor a god; and he set up Humanity as the idol or god of his cult.

The real positivists of former times were the mathematicians and astronomers, for they were the first to develop exact science. They were followed by the physicists and chemists. These were the contained and balanced men of their age and were opposed by the speculative school of thought. The latter have arrived nowhere in particular but still persist, the theory of relativity being their latest output in physics and psychoanalysis the latest in medicine. Perhaps they do good in opposing a rampant materialism. Yet the fact remains that modern advances are almost wholly due to the positivists of exact scientific bent; and the greatest wonder of all is the fact that such science is gradually blotting out the old materialistic conceptions and is advancing material science into the domain of what was once regarded as supernaturalism.

The So-called Intangible

Bacteriology deals with what was formerly regarded as intangible causes. The microscope makes visible the infinitely small and the telescope the infinitely distant; and these two instruments have opened up two new worlds of thought. The spectroscope analyzes the intangible into positive science. Electricity deals with imponderable forces of mighty power; and yet we cannot see electricity. The chemist deals with atoms that even the microscope cannot reveal, and the physio-chemists have divided the atom into electrons still more minute. The student of radio-energy has elaborated the X-ray and other rays of potent activity and bordering on the supernatural. Radium possesses proved characteristics as supernatural as any conception of ancient philosophers in their study of light. The wireless telegraph carries thought instantly from continent to continent. Thus has science proved that what was formerly merely a belief in the intangible and supernatural was well based in what we now demonstrate as phenomena and prove as true and powerful forces. Yes, science is creating faith—a faith that makes for belief that the evidence of things not yet seen will finally come to light. And where will it all end?

The New Positivism

The new positivism adds to man's natural five senses a host of other ways to apprehend phenomena and breaks down the old line between physics and metaphysics, believing that the so-called supernatural lies only a little ways beyond the veil, and that it will soon be penetrated and its mysteries solved; that the substance of things hoped for will be found, and the evidence of things not yet seen will be forthcoming in due time. If this is not revelation, what is it? If God is not yet speaking to man, from whom do all these wonderful revelations come—one after another, as they are due? The new positivism is a better religion than Comté taught.

The New Medicine

No longer an empiricist exploiting mere materialism and promulgating a theory or philosophy; no longer a mere individualist intent on nothing but what his five senses reveal to him and his own deductions therefrom make plain, the modern physician is an apostle of the new positivism, a contained man of science who modestly searches the whole realm of human knowledge for answer to his daily problems. He knows his limitations; he knows that instruments of precision are necessary to add to what he can see and hear and taste and feel and smell; he knows that he is a high priest of science and no longer a mere worker in material and business affairs; he knows that he cannot interpret the sounds of the heart without modern instruments, or trace an infection merely by following symptoms, or define the extent of many fractures without that "other eye" that science affords, or learn the secrets of many diseased conditions without those helps that are found in modern hospitals and diagnostic laboratories. And hence—

The New Doctor

And what are his characteristics? Hobbes called Comté's idol, Humanity, "The Leviathan," while Comté regarded Humanity as the "New Supreme Being." Hobbes, like most men of his time, even the eminent theologians, were individualists, elevating certain men but showing little interest in humanity at large, as most men were to be finally damned any way and only a few saved. Comté set up an abstract Humanity. The New Doctor sets up no abstraction, nor does he believe that men at large are to be damned; he views Humanity collectively in so far as wide necessities are involved, but individually in applying these necessities. Individualism characterized the old empirical doctor, even as it did the old dogmatic theologian; but the new generation of physicians—the new positivists in medicine—are fast getting away from the individualistic point of view; they are members of a group, each one according to his several talents and lines of special training cooperating to attain to all precision in diagnosis and case-management made possible by their own unaided five senses plus the aids that modern research adds thereto. The physician of modern training may not be always as much of a dealer in the social amenities as was the old-time doctor who had more leisure; he is less self-opinionated, less self-assertive, less readily swept off his feet; he pays but little heed to mere talk, values only sustained opinion, demands proofs and controls in all experimentation and research, and discounts a vast deal of what is printed. A large proportion of physicians of recent training are engaged in hospital work a portion of their time, or are in institutional or public health work; their daily association with their colleagues makes for broad vision and a collective point of view, and they are in affiliation with sociologists, chemists, laboratory workers and humanitarians in many lines of work. A wide and exact literature is open to them, and they lose all provincialism, obsessions, predispositions, etc., and become judicial in attitude and far from commercialized in bent.

The new doctor regards humanity highly, is charitable in his views of human weaknesses, and he is deeply interested in the larger things of modern medicine and its inter-relationship with men and affairs in many lines. Fraternal with his colleagues, even when defective in training, he exalts the medical prerogative and resents any overplus of lay control in medical affairs.

Impending Changes

Thus it will be seen that the new positivism and, as well, the large part that modern medicine is taking in affairs, tend to the rapid integration and correlation of the modern humanities in the many lines of private and public effort. The modern physician is compelled to drop his old individualism. It is, perhaps, not to be expected that the man of the old training will find it easy to get his bearings. It is hard to drop the old conventions and take up his professional work in far from the traditional attitude. Yet the rapid multiplication of hospitals and laboratories, dispensaries, group clinics, health centers, sanitary services, special institutions, etc., call for a new orientation and a revision of the economic status of the medical profession. This adjustment is especially hard for the general practitioner and calls for much patience on his part. *Just here we want to call for a little patience on the other side.*

Certain Neglects

It is a *great weakness* in the modern program that, while the very rich and the very poor are well taken care of, *the great mass in between is neglected;* and while the *very skilled specialist* and the *young physician* willing to work on a *salary* fit in well to the modern scheme, the *hard working general practitioner* who visits the *rank and file of sick and injured peo-*

ple in their homes is largely left out of the account, *as well as the people he treats.* Inevitably the physician so placed, who has not access to modern instruments of precision that cost so much money, works under a handicap, try as he may. Knowing this handicap, and that he will inevitably retrograde under it, the new medical graduate hesitates to locate in small communities. An effort is being made to repair this defect of small communities by establishing small community hospitals with proper laboratory equipment. This is a proper move, but it needs *wise direction.*

We have just visited a small community in which is located one of the most up-to-date general hospitals in that section of the country. It is heavily endowed and has a staff of about a dozen full-time physicians on adequate salaries; and they are doing splendid work in every sense of the word. Yet a small group of general practitioners in the town are doing *most of the general work* in the community—the *hard and poorly paid work.* These outside men are having hard getting along; most of them have retrograded in attainment, and they are giving the people of that place *rather poor service,* compared with what the hospital is giving to the surgical and special cases, or compared with what residents of other places are receiving from physicians who do not have the *competition of an endowed hospital to meet.* Here is a *big medical problem.*

We cannot afford to promote *classes* in the profession, as is done in that town; it is *bad for the people* themselves, and it makes for sumptuous medicine for the favored staff members and back-number medicine for the outside men who cannot compete successfully, the result being that while a splendid hospital is doing fine work, the *great majority* of the residents are receiving less than average attention from physicians who make so little money that they *cannot afford* to keep up to the times or properly equip their offices.

The *better plan* is for a local hospital with part-time staff members who do the outside work the rest of the time. By this plan *all necessary* hospital service is rendered to the community and the resident practitioners have both a *professional* and an *economic* chance to do *good and modern work.*

The New Positivism and the Doctor's Income

Intensive medicine and scientific positivism are demanded by the age; it is being largely given in the field of preventive medicine, by the hospitals and by the specialists. It must also be given in general medicine, to *all of the people,* else the whole structure will finally topple to decay; but all of this costs money. Economically it will pay to give it, for morbidity and mortality will decline, the loss from unnecessary sickness and injury will diminish, the efficiency and happiness of the people will be promoted, and the general morale of the people will be infinitely higher.

We cannot expect scientifically trained men of scholarship and technical skill to be at the same time financiers and business managers, be they physicians, chemists, architects, or what not. In many technical lines the economic status is well worked out and the scholars engaged in such work are relieved from business and financial care and are provided adequate incomes for their services. Furthermore, these gentlemen do not have to compete with quacks and pretenders. Who ever heard of a quack architect, fraudulent engineer, fake chemist, ignorant bank president, or pretender to executive ability ever keeping his job for long? We are not arguing against business discrimination on the part of a physician, but we do contend that one of the greatest of handicaps is to be compelled to make bricks without straw. History records what happened in Egypt when such tactics were followed by Pharaohs and that history has been repeated in many poorly adjusted economic conditions; it is being repeated among the ranks of the general practitioners of medicine today.

What is the remedy? It must be found, else the wonderful advances that medicine and the cognate sciences have made will fail to be the blessing to humanity that they ought to be. Can their be any doubt that in the "Family Physician" with his traditional relation to the rank and file of solid industrious people we have the health factor of most fundamental importance? Have we any evidence that institutional medicine or state medicine can adequately fill his place, effectively perform his function?

Which points the way to medical progress: an attitude of competition toward the general practitioner on the part of modern collective medical agencies—the hospital, etc.; or an attitude of constructive co-operation through properly and fairly co-ordinated effort to the end that the health interests of all the people may be most effectively served and in a manner satisfactory to them?—T. S. B.

(*Continued from page* 129)

as the patient showed any symptoms of the trouble and then discontinue, only to begin again as soon as the patient showed the least sign of a return to the old conditions. Unlike a sore thumb, these patients are never cured; they are only relieved and helped and some of them almost restored to the normal, but they are more easily thrown off balance as to the endocrine secretions than is the average normal person. Anything that irritates or disturbs the secretion of these glands causes a return of the symptoms and should be relieved by the indicated glandular extract.

R. O. Brown, M.D., Mt. Morris, Ill.

Probably a case of thymus deficiency in early life.—Ed. (*Continued one leaf over*)

Constipation in Children

is a field of use in which

INTEROL

has proven particularly serviceable and effective.

Tasteless, odorless and notably free from the disagreeable greasiness that so many object to, Interol is readily taken by the most squeamish child.

Used systematically in doses properly adjusted to each patient's needs, peristalsis is gently excited, and with the bowel contents softened and lubricated, complete and satisfactory evacuations follow regularly, without requiring straining, or causing the slightest pain or discomfort.

Sample and useful brochure on the successful use of Interol sent on request.

Dosage in Children
Start with a half to one teaspoonful 3 times a day before meals. Increase or decrease dose until one good movement is obtained daily. Then gradually decrease to the point where a small dose at bedtime will maintain the foregoing result.

Allied Drug & Chemical Corporation
2413 Third Ave. **New York City**

What does it mean

When the patient's tissues are water-logged, the heart is laboring to overcome circulatory stasis, and the kidneys are unable to functionate adequately? It should mean prompt prescription of

ANASARCIN TABLETS

Because

The contained active principles of Squill (scillitoxin and scillipicrin) increase the force of cardiac systole and regulate cardiac rhythm, beside stimulating diuretic action. ¶ Because the combined sambucus and oxydendron promote free elimination of urinary fluids and solids.

ANASARCIN *strengthens the heart, regulates it, overcomes circulatory stasis, promotes absorption of effused fluid and its prompt elimination.*

Sample and literature to physicians on request

THE ANASARCIN CHEMICAL CO. **Winchester, Tenn.**

Proposed Reorganization

of the

United States Public Health Service

NO GENERAL LEGISLATION providing for the reorganization of the United States Public Health Service has been enacted since 1889; nothing but necessary patching to meet emergencies has been undertaken.

Senate bill 2764, the Sixty-seventh Congress, was introduced by Mr. Watson and was referred to the Committee on Finance.

This bill provides for the addition of 450 medical officers, 50 dental officers, and 50 officers to be attached to the scientific personnel, all to be in the regular corps of the United States Public Health Service. This force the bill provides for recruiting from the reserve officers now on duty but not commissioned in the regular service corps, all such recruits being commissioned after suitable examination for the grade to which they seek entrance and selected only from among those who have shown proficiency in actual duty. The act does not provide for any increased appropriations for the needs of the service.

Owing to resignations and retirements, the number of regular officers now on duty is less than in 1917, and this has necessitated a Reserve Corps largely made up of seasoned men who take care of responsible work incurred by the increase in the merchant marine of about ten millions gross tons, the millions of men who are beneficiaries of the service through the Veterans' Bureau, increased quarantine work, the rush of immigrants to the United States, and interstate work in epidemiology imposed upon the service. These emergencies have been met, very patriotically, by emergency men recruited for the occasion.

Now that the war is over this is a very unsatisfactory status, and competent doctors do not care for such appointments. It is only fair to the service and to physicians serving under it to provide a proper status for commission, so that a life career is open to them, not a mere position of uncertain tenure.

This bill, we are informed, has the support of the regular officers of the service, and we hope every physician interested will do what he can to secure its enactment into law; and especially should he express himself favorably to the bill to the members of the Senate and House from his district.

The plan proposed is a good one, in that it will secure mature and experienced men of ability to enter as a life work this highly necessary branch of the government's work in public health.

BEST CURRENT MEDICAL THOUGHT

The Relationship of Carcinoma to Infection

W. Ford Robertson (*British Medical Journal*, December 3, 1921), in the course of many years of bacteriological work applied to therapeutic immunization, has developed some special culture methods by the aid of which he has been able to observe facts regarding the behavior of bacteria, which, although not altogether new, have attracted little attention. One of these facts is that many bacteria that we regard as aerobes commonly assume, when their attack is prolonged, an anaerobic habit of growth, and can be cultivated only under anaerobic conditions. This applies, for example, to such important pathogenic species as Micrococcus catarrhalis, the gonococcus, Streptococcus pyogenes, Streptococcus fecalis hemolyticus, and several types of diphtheroid bacillus. If a bacterium of this kind establishes itself in an epithelial cell and multiplies, the cell may die on account of the toxic action that ensues. It is far from likely that in every instance the cell will succumb. One action of bacterial toxins on cells is to stimulate growth. It is possible that some types of bacteria, if established within an epithelial cell, would have chiefly this effect. With these facts and possibilities before him the hypothesis suggested itself to the author that the rods he has observed within cancer cells by means of the pallidum methylene violet method might be anaerobic bacteria that had established themselves within the epithelial cells, and that the continued proliferation was due to these bacteria. He has tested this hypothesis in various ways during the past two years and submits evidence to support it which he claims is, to put it mildly, sufficient to arrest attention. There is evidence to support the belief that there appears to be a race of anaerobic bacteria, comprising several species belonging to the large diphtheroid group or to the closely allied streptothrix group, which are capable of infecting epithelial cells and maintaining within them a parasitic existence. There are some rounded or oval bodies that may occasionally be seen in the cultures which cannot be called either bacilli or micrococci, but which are not incompatible with the polymorphism of some of the higher bacteria, especially the streptothrices. It is probable that bacteria of other groups are capable of acting in the same way. If this is so, cancer may have to be regarded as dependent upon a special mode of bacterial attack, rather than upon a specific infection. Invasion of the cell would appear to be effected, as a rule, by bacteria of comparatively vigorous growth and easy to cultivate, but when these bacteria adapt themselves to purely parasitic intracellular growth they become comparatively feeble and extremely difficult to grow in culture media. Tumors can be produced in mice by both the vigorous and the feebly-growing strains. Focal reactions can be obtained in some cases, success probably depending upon the vaccine having been prepared from the same species as that in the case. The possible diagnostic value of such reactions is a question for future investigation. He thinks the prospect of being able to exercise some control over the growth of cancer by means of therapeutic immunization is distinctly good.

In the discussion of this paper, Dr. James A. Murray (Director, Imperial Cancer Research Fund, London) said that he would state the objections that occurred to him against the argument that Dr. Ford Robertson's diphtheroid bacillus was the cause of cancer. In the first place, mammary tumors in mice were common. It was

(*Continued one leaf over*)

To sleep or not to sleep— That may be the problem

Sleep, "that knits up the ravelled sleeve of care," may be difficult to achieve for a patient who drinks tea or coffee excessively, whose nerves are probably kept on tension by the irritating effect of caffeine.

Every doctor knows that without sleep, reconstruction of any debilitated state is impossible. During sleep the final conversion of food into vital nutrient material is largely accomplished.

If your patient is neurotic and doesn't get the proper amount or the proper quality of sleep, it might be well to interdict tea and coffee for a week or two, and order Instant Postum.

With thousands of people, Postum is as satisfying in flavor as the average coffee. This is undoubtedly one of the reasons for the increasing popularity of Postum throughout America. It serves every purpose of a hot-meal-time drink, and as it contains no harmful ingredients, no ill-effects follow its use.

Postum is an absolutely pure cereal beverage, scientifically prepared in the largest, most modern and sanitary plant of its kind in the world.

Suggest Instant Postum to your next neurasthenic, Doctor, and see if it does not help your general sedative and reconstructive treatment.

Samples of Instant Postum for individual and clinical test will be sent on request to any physician who has not received them.

Postum Cereal Company, Inc.

Battle Creek, Michigan, U. S. A.

interesting that none had occurred in Dr. Robertson's controls, but that did not exclude the possibility of their spontaneous development in the inoculated animals. It was well known, however, that any form of chronic irritation might give rise to cancer, and Dr. Murray was quite prepared to admit a non-specific relation between tumors and bacteria. A point against the specificity of Dr. Robertson's organism was the very great variability in the length of the incubation period in the experiments—that is, from a few weeks up to eighteen months.

He had seen the bacteria-like structures in the tumor cells when they were demonstrated at Oxford fourteen years ago; he held then, as he still did, that they were not bacteria. There were so many intracellular structures, such as mitochondria, which could be mistaken for organisms, and under pathological conditions the intracellular appearances might alter considerably. No evidence had been forthcoming to prove that the rod-like structures were bacteria. Dr. Murray mistrusted metallic impregnation methods for the demonstration of special structures. They were very uncertain in their action. One never knew whether the whole or only part of a structure would be impregnated. One part of a section might stain beautifully, while similar tissue nearby might be only partly colored or not at all. Much concerning the minute structure of cells was still obscure. A combination of morphology and staining reactions was needed in deciding histological questions. Another point against Dr. Robertson's theory was that there was no constant relation between the site of inoculation and the site of the tumor. Scarification of the ear did not, for instance, explain the occurrence of a tumor in the mammary gland or uterus. Dr. Murray thought that the failure of the site of the tumor to correspond in all cases with the site of inoculation, together with the variability in the incubation periods, was strong evidence that Dr. Ford Robertson's bacillus was not a specific cause of cancer.

Dr. McAdam Eccles (Surgeon, St. Bartholomew's Hospital, London) said that Dr. Ford Robertson's paper was of the greatest importance, and was another link in the chain of evidence of the infective origin of carcinoma. As an operating surgeon frequently dealing with carcinomata, such scientific investigation of the cause of carcinoma was of particular and practical importance. All the material investigated appeared to have been from a neoplasm which might have been infected from the surface, the mamma through the ducts in the nipple, the rodent ulcer, etc. If similar results were to be obtained from a carcinoma which had arisen in a "buried" organ, say a testis, it would be a very striking fact.

The infection of and subsequent development of an epithelial growth in so many mice was of the greatest value. He ventured to throw out the suggestion that because mice were the animals most easily infected with later growths, might they not be a possible source of the bacteria which infect the human, seeing also that they were with us everywhere, and did not hesitate to run over and help themselves to our food? Had any of the tumors arising "spontaneously" in the mammae of mice shown any of these distinctive bacterial-like structures?

De Capsulation of the Kidneys in Bright's Disease

T. H. Sanderson-Wells (*British Med. Jour.*, December 3, 1921), after reviewing the literature on this subject and reporting a case in which this procedure has been successful, at least for the time being, says the operation deserves consideration under two conditions:

1. As an emergency in eclampsia, uraemia, suppression of urine, etc. The more desperate the extremity the more certainly it should be discussed, and cases have been snatched from apparently impending dissolution.
2. In chronic cases, when medical treatment has failed after a thorough trial. In both the above classes the heart and arteries should be reasonably sound, which probably means that most success will be obtained in the first half of life.

The Etiology of Rickets

Frederick F. Tisdall, Toronto (*Can. Med. Asso. Jour.*, December, 1921), conclusions are:

Pathological conditions have been produced in the bones of rats, which bear a fundamental resemblance to the bone lesions present in human rickets. These changes have been produced by feeding (1) diets containing an insufficient amount of phosphorus and an unidentified organic factor, the other organic and inorganic constituents being at an optimal concentration; (2) diets containing an insufficient amount of calcium and the unidentified organic factor, the other organic and inorganic constituents being at an optimal concentration.

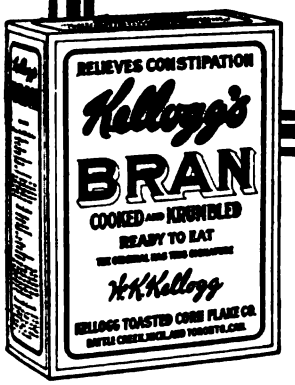
Congenital or fœtal rickets, if it occurs at all, is an extremely rare condition. No proof has been given that rickets is due to a derangement of the function of the glands of internal secretion and no evidence has been advanced that infection, confinement or defective hygienic conditions are more than contributary factors in the production of this disease. A deficiency of phosphorus alone, calcium alone or the anti-rachitic factor (fat soluable A?) alone, in the diets given to rats, will not produce rickets.

The geographical distribution of rickets may be explained on the basis of the effect of the diet, and possibly of sunlight, on the prevention of the disorder. In the tropics the children are not only exposed to sunlight, but their diets generally have a large percentage of leafy vegetables which contain a considerable quantity of both the anti-rachitic organic factor and the inorganic salts. The anti-rachitic organic factor is contained in large quantities in cod liver oil and so far as it is known rachitic lesions cannot be produced by any means provided this oil is supplied in the diet. The use of fish as a staple article of food by the inhabitants of the far North gives an adequate explanation for the infrequent occurrence of rickets in that region.

The possible effect of sunlight on the prevention and healing of rickets and the favorable results obtained by means of ultra-violet rays, are extremely interesting when considered with the known effect of the anti-rachitic organic factor. When cod liver oil is given to rachitic children it causes a marked deposition of calcium salts in the bones. Ultra-violet rays appear to have an identical effect. The question arises whether the ultra-violet rays produce or cause to be liberated in the body a substance similar to that present in cod liver oil, which stimulates the deposition of calcium salts in the bones, or, on the other hand, whether the beneficial effect is due to the emanation of certain rays produced by the oxidation in the body of the unidentified substance in cod liver oil, which rays might be similar to those present in the light from the mercury vapor quartz lamp, or sunlight. It is known that the permeability of plant cells for certain inorganic salts is increased by exposure to light. It is also known that fatty oils emit light on oxidation. Further experimental work is necessary for the settlement of this most interesting question.

(*Continued one leaf over*)

Treatment of CONSTIPATION *in* OLD AGE



Prevalence of constipation among the aged is very general and a condition, as you know, that demands considerable attention. In old-age cases as well as those that are bed-ridden, Kellogg's Bran, thoroughly Cooked and Krumbled, is offered as a natural and very satisfactory measure of relief.

Besides the positive work of Kellogg's Bran, because its bulk serves to distend the intestine and thereby induce better peristaltic action, it is particularly pleasing in flavor and in edibility. Unlike common brans, Kellogg's Bran, thoroughly Cooked and Krumbled, does not become tiresome to the patient. In fact, as a cereal with milk or cream, or on the patient's favorite cereal, it is most appetizing! Or, used in baking products Kellogg's Bran is particularly appealing to the most sensitive appetite.

Physicians may anticipate satisfying results from prescribing Kellogg's Bran for both mild and chronic cases. The average amount specified is two tablespoonfuls for mild cases—in chronic cases, it should be eaten with each meal.

Physicians are requested to send to us for a large package of Kellogg's Bran, which will be supplied without any obligation. We are anxious that they personally know the value of Kellogg's Bran.

Kellogg's
Bran Gems

1 cup bran
1 cup flour
¼ cup milk
2 tablespoons syrup or molasses
½ teaspoon salt
1 tablespoon melted shortening or cooking oil
2 teaspoons baking powder

Sift flour, baking powder and salt into bowl; add milk, syrup and shortening; beat a few minutes; brush gem irons with melted fat; fill three-fourths full; place in hot oven; bake 10 minutes. They should be crisp.

Kellogg's *Look for this signature W. K. Kellogg*

the original BRAN ~ *cooked and krumbled*

The recent work of McCollum, Simmonds, Shipley and Park, although it constitutes a distinct advance in our knowledge of the production of experimental rickets in animals, does not solve the problem of human rickets. Many children develop this disease when they receive a diet of cow's milk, which contains a large amount of phosphorus and calcium. In fact, rickets may be seen in certain infants receiving almost any diet. Nevertheless, it is a striking fact that the diets of most of the children who develop rickets are ill-balanced and low in the anti-rachitic organic factor. In all probability it will be shown that rickets in the human is due to dietary defects with a possible combination in certain cases of an insufficient amount of sunlight.

Duodenal Ulcer

T. R. Martin, Duluth (*Minn. Med.*, December, 1921), conclusions are:

(1) A little more than one-half of duodenal ulcers in this series treated by gastroenterostomy got complete relief. The relief was absolute; they are free from any digestive disturbance, and usually eat what they please. Twenty-five per cent. were benefited, and 12 per cent. not improved.

(2) Thirty-five per cent. in this series of uncomplicated duodenal ulcers responded to rather simple dietary restrictions and alkalies, at least insofar as remaining symptom free for a reasonable period of time is concerned.

(3) At the present stage of our knowledge, the fear of possible malignancy arising on gastric ulcer must still be a large determining factor in the choice of surgical treatment; but the situation deserves the most intensive study.

(4) Considering the fact that duodenal ulcer is exceedingly common and relatively benign, and many people go through life with this ailment without treatment and without much inconvenience, it seems entirely reasonable that all cases not presenting definite and well known surgical complications should be given the benefit of medical treatment. This must remain true despite the remarkable surgical results of treatment in properly selected cases. The successes enumerated, from 50 per cent. to 80 per cent., variously estimated, still leave 20 to 50 per cent. whose only remaining hope is further questionable surgery, or medical treatment. Would it not be advisable to try medical treatment first?

The Determination of Dental Focal Infections by Means of the Radiogram

Maximilian John Hubeny (*Ill. Med. Jour.*, December, 1921) conclusions are:

First—The future of medicine and dentistry lies essentially in prophylaxis.

Second—The burden of early treatment should rest on the patient.

Third—Co-operation of dental and medical professions in re-educating the lay people.

Fourth (a)—It is inadvisable to devitalize teeth and when that stage is reached, extraction should be advised, although it must be admitted that devitalized teeth are carried by patients, which teeth are not symptom producing.

(b)—However, these teeth are potentially bad and infection may occur at any time, without any local symptoms becoming manifest.

Fifth—If the radiogram gives evidence of disease, it is of value, in a positive sense; however, if no evidences of disease are present, a definite exclusion of pathology cannot be made, since considerable time elapses between the onset of infection and X-ray manifestations of disease.

Book Reviews

Infections of the Hand

By Allen B. Kanavel, M.D., Assistant Professor of Surgery, Northwestern University Medical School. Lea & Febiger, Publishers, Philadelphia, 1921. Price, $5.50.

Infections of the hand leading to permanent deformity are of such paramount importance that one is amazed that the literature upon the subject is as meager as it is. The study is one not only of great importance to the surgeon as well as to the patient, but the resulting deformities and the uselessness of many hands play an important part in human efficiency and thus becomes too often a grave problem affecting the whole social fabric, that may be traced to inefficient and improper treatment, as well as to neglect on the part of physician or patient or upon both.

In a well-written volume of 500 pages, Kanavel completely covers the ground, laying unusual stress upon the all-important subject of tenosynovitis, which he discusses in a masterly manner and indisputably shows that "hands suffering from this dreaded complication may be restored to complete function."

In the complete list of infections one is impressed with the thoroughness with which such subjects as erysipelas, gas-bacillus infection, anthrax, etc., are discussed.

A chapter full of practical application is devoted to "Hand Infections Among Employes." Kanavel recognizes that in these instances a great economic principle is at stake and emphasizes the necessity of the removal of external causes of accidents and of predisposing causes for infections found in employes. He urges immediate medical attention and advises iodine as a prophylactic measure.

The work is printed in large readable type and is embellished with 185 illustrations, a number of these in colors to elucidate more clearly anatomical relations. Taken as a whole the work reflects credit on the knowledge and discrimination of its author.—A. W. H.

A Physical Interpretation of Shock, Exhaustion and Restoration. An Extension of the Kinetic Theory

By George W. Crile, M.D., Professor of Surgery, School of Medicine, Western Reserve University. Edited by Amy F. Rowland, B.S. Cloth, illustrated, 232 pages. Oxford University Press. Price, $8.75.

Dr. Crile, who was with the American Expeditionary Force, was in position to study shock in France and conduct practical researches in justification of the kinetic theory of shock and shockless operation through anoci-association. This book sets forth the findings and gives justification to the theory that shock will kill, even without trauma, and did kill many thousands of soldiers. Of course much laboratory experimental data is given, largely studied in a regional manner and thus of direct clinical value. Valuable studies are incorporated on the effects of various drugs in shock. A study of sleep follows and the effects of various agents in producing shock and the phenomena produced under differing conditions of exhaustion and trauma.

While there is much of theory in this work, there is also marked clinical desiderata that seem so well based that the treatment of shock and exhaustion is clarified.—

(*Book Reviews continued one leaf over*)



Home Treatment In Tuberculosis

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Denver, 621 Central Sav. Bank Bldg. **Portland, Ore., 607 Pittock Block.**
Dallas, 1805½ Commerce St.

Roentgen Interpretation

By George W. Holmes, M.D., Instructor in Roentgenology, Harvard Medical School, and Howard E. Ruggles, M.D., Clinical Professor of Roentgenology, University of California Medical School. Second edition profusely illustrated. Cloth, 228 pages. Price, $3.25. Lea & Febiger, Philadelphia.

A very practical work setting forth the subject from an exact pathological point of view and written by experienced men who know the value and the limitations of the field they so capably discuss.—

The Assessment of Physical Fitness

By Georges Dreyer, C.B.E., M.A., M.D., Professor of Pathology in Oxford University, and Geo. Fulford Hanson, with a foreword by Charles H. Mayo, M.D. Cloth, 128 pages, with 24 tables. Published by Paul B. Hoeber, New York City. Price, $3.50 net.

A scientific study of physical fitness as based on the correlation of vital capacity and body measurement. Men are divided into three classes: those developed physically by training or occupation, those in semi-active business or professions, and those leading sedentary lives. The text and tables show standards for all three classes which are fair in assessing physical ratings in life insurance and for industrial and military examinations. The work is a valuable contribution in its especial field.

A Manual of Physics for Medical Students

By Hugh C. H. Candy, B.A., B.Sc., F.I.C., Lecturer on Chemistry at the London Hospital Medical College and Professor of Natural Philosophy in Queen's College, London Second edition, cloth, 451 pages, freely illustrated. Paul B. Hoeber, 67-69 West Fifty-ninth St., New York City. Price, $2.75 net.

While this book is especially prepared for students, the changes in physics, more especially in theory, of the last twenty years are unfamiliar to physicians long in practice. This work is an excellent one for a review of the subject. Of especial interest to medicine are the chapters on optics and electricity.

The New Pocket Medical Formulary

By William Edward Fitch, M.D., third edition, revised, with an appendix. Flexible leather, 470 pages. F. A. Davis Company, Philadelphia. Price, $2.50 net.

A well-selected list of formulæ arranged in a convenient manner for ready reference and brought fully up to date. The appendix gives formulæ for hypodermic medication, for fluid foods, etc., followed by diet lists, hints on differential diagnosis and tables of doses. This is one of the best work of its kind.—

Modern Italian Surgery and Old Universities of Italy

By Paolo De Vecchi, M.D., F.A.C.S., Corresponding Member of the Royal Academy of Medicine, Turin. Cloth, illustrated, 250 pages. Published by Paul B. Hoeber, New York City. Price, $5.00 net.

The American profession is under obligations to the author of this interesting volume for his previous publication for Italians of a booklet entitled "Note ed Osservazioni sulla Chirurgia e sui Chirurgi degli Stati Uniti d'America," and this present work is a companion one, though larger, wherein the American profession is informed regarding surgical advances in Italy, more specifically the remarkable work done during the late war in surgery of the chest, hernia, bone tuberculosis, kidneys and certain procedures in amputations.

The book is well written, is not particularly technical, gives a wealth of information on the Italian universities and hospitals, and should be of great interest to American surgeons.—

Studies in Neurology

By Henry Head. M.D., F.R.S., in conjunction with several other authors. Two volumes, cloth, illustrated, 862 pages. Oxford University Press, London. Price, $17.00.

This is not a general treatise on neurology; it embraces studies on the peripheral and afferent nerves, nerve division, spinal reflexes and the relationship between sensory disturbances and the cerebral cortex. The work deals with the physiologic mechanism of somatic sensibility and is in opposition to previous psychological and physiological teaching; it represents a world of study and careful observation, but the reviewer feels justified in saying that the average neurologist will not agree with the findings or conclusions reached.—

Feebleness of Growth and Congenital Dwarfism

With special reference to Dysostosis Cleido-Cranialis. By Dr. Murk Jansen, O.B.E., Lecturer on Orthopedic Surgery, University of Leiden, Holland. London: Oxford University Press, 1921. Price, $5.00.

Quoting from the foreword by Sir Robert Jones: "This book aims at establishing principles explaining the manner in which body growth is affected by injurious influences. The author discusses the influences of pathological changes and those of pressure upon the determination of deformity. His aim has been to select what he terms 'quantitative' changes of growth from pathology, uniting them into a new chapter and linking them together by simple laws or rules. This philosophic and suggestive contribution carries a torch into the dark places and displays a new line of research both fascinating and scientific, and of great social and practical promise." The value of this monograph is greatly enhanced by an abundance of illustrations, including radiographs and photomicrographs.

Diseases of the Nervous System

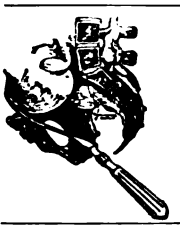
By H. Campbell Thomson, M.D., F.R.C.P., Physician to the Department for Diseases of the Nervous System, and Lecturer on Neurology, Middlesex Hospital; Physician to the Hospital for Epilepsy and Paralysis, Maids Vale. Third edition, revised. Cloth, 566 pages, profusely illustrated with figures and plates, several in color. Paul B. Hoeber, 67-69 East Fifty-ninth Street, New York City. Price, $5.00.

Beginning with a discussion of the neurones and the reflexes, the author takes up the autonomic system, cerebral localization, examination of the higher functions of the nervous system and the paths of infection, before proceeding to clinical differentiation, pathology and treatment. For the practitioner who desires a compact volume which discusses neurology from a modern standpoint, the work is well designed, for it eliminates much of theory and controversy. The work connects up well with other branches of clinical medicine and is well designed to serve the needs of the general practitioner.—

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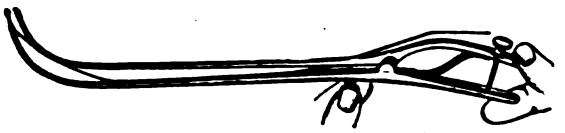


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A Practical Treatise on Diseases of the Skin

By Oliver S. Ormsby, M.D., Professor of Skin and Venereal Diseases, Rush Medical College, etc., and dermatologist to several hospitals. Second revised edition. Cloth, 1166 pages, 450 illustrations, some in color. Lea & Febiger, Philadelphia. Price, $10.00.

Dr. Ormsby has accomplished what he set out to do, for his work is thoroughly practical and satisfactory, both for the student and the practitioner. This is no incomplete work, as it describes even the rare skin diseases. An especial feature of value is the thorough presentation of introductory data on the anatomy and physiology of the skin, and general symptomatology, etiology, pathology, diagnosis, prognosis and therapeutics. The work is to be cordially commended.—

Treatment of Rheumatism

That salicylates cure rheumatism is one of the few therapeutic facts which all admit, regardless of school or creed. But even this statement requires modification —two modifications in fact. The first of these is that the diagnosis is correct, that the patient is really suffering from rheumatism and not from some specific complaint, and the second is that the true, natural salicylates made from the natural oil of birch or oil of wintergreen are used and not the synthetic salicylates made from coal tar. The careful physician can make sure that his patient receives the true, natural salicylates by specifying "True sodium salicylate, Merrell" on his prescription. All pharmacists have it or can get it from their jobbers.

To insure the purity of their true salicylates, The Wm. S. Merrell Company have purchased and now operate three birch oil stills in Connecticut, where they distill their own birch oil which they convert into true salicylates at their Cincinnati laboratories. Write them at Cincinnati for their brochure on the "True Natural Salicylates and Their Uses."

Natural Stimulation of Catharsis

Medical science has found a substitute for the cathartic in the humble outer coating of wheat. The substitute is bran, a substance known for generations, but never fully appreciated until intensive study of the relation of food to human efficiency showed that the cellulose so necessary to a proper diet was contained in large percentage in it.

Dietitians have been studying nutritive food values extensively within the past few years and with startling unanimity have settled upon bran as one of a few very necessary ingredients which should go upon the table daily. They have found it invaluable for its beneficial effects, and desirable because of its cheapness and simplicity of preparation.

The digestion, medical science has found, is given a false and artificial stimulus by the cathartic drug, and its use is generally regarded as an important factor in the alarming death rate. Physicians are prescribing diet lists instead of laxatives and bran is always included in these lists.

Chemical analysis of bran has shown it to contain about 8 per cent. of mineral salts and also small percentages of phosphorus and calcium. Of these mineral

(*Helpful Points continued one leaf over*)

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salts is a particularly valuable ingredient, and physicians state that there is no danger of there being too great a supply of the latter elements in the diet.

Medical consideration of the prescription of bran has followed not only the substitution for cathartics, but has reasoned also that the human system is a finely wrought mechanism which functions with greater efficiency when not requiring laxatives, and that a regular diet, including bran, fruits and other cellulose-containing foods does away with the necessity of artificial stimulation for catharsis.

A New Mercurial

The Old World gave us Salvarsan. The New World has given us Mercurosal. Salvarsan is placed directly into the vein; Mercurosal may be also. Never until now has the medical profession had a mercurial preparation that could be administered intravenously, by the mere introduction of the needle into the vein and the customary technique, without the practical certainty of obliterating the vein.

In Mercurosal, the new P. D. & Co. mercurial, the molecular form of the mercury compound is such that it has no irritating effect upon the delicate tissues of the venous walls; at the same time, characteristic mercurial effects upon the spirochetes are secured by the intravenous administration of this compound.

One physician reports having made twenty-seven consecutive injections into the vein in a space not more than half an inch in extent, without any ill effect upon the blood vessel.

The chemical synthesis of Mercurosal must be regarded as a triumph over difficulties as great as those which had to be overcome in the development of Salvarsan; and its accomplishment is what the profession has long been looking for, notwithstanding the acknowledged value of the arsenical compounds. Both Salvarsan and Mercurosal are needed.

The manufacturers, Parke, Davis & Co., Detroit, Mich., have a booklet on the subject which will be sent gladly to AMERICAN PHYSICIAN readers, on request.

A Necessary Part of Professional Equipment

Today the physician, as much as the business man, feels that he cannot trust to the vagaries of hand writing —that he must be equipped with a typewriter.

In addition to the favorable impression typed instructions, histories, labels, directions, etc., make, and the minimizing of the chance of mistakes and errors—there is the important time-saving element. Many physicians are finding that a typewriter is one part of professional equipment they cannot afford to do without.

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(*Helpful Points continued one leaf over*)

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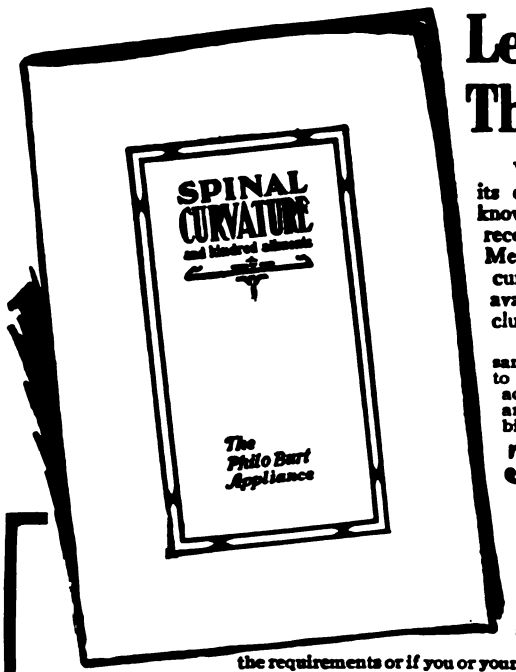
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sical properties that give it maximum efficiency as an intestinal lubricant. Especially is it free from the lighter hydrocarbons and sulphur compounds liable to prove irritating to the intestinal canal or the renal structures.

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Discovery of Intravenous Method

David Loeser, Ph.G., writing in the *New York Med. Journ.*, gives an interesting angle on the discovery of the intravenous method:

"It is recorded in the transactions of the Royal Society of England by no less an authority than Robert Boyle, the famous chemist and physicist, that the idea of the intravenous injection of medicine was suggested to him in the early months of the year 1657 by Sir Christopher Wren. That Wren was not a physician, but an architect, is probably known to everyone who has ever heard of St. Paul's Cathedral, and it is a curious fact that the first record of such a revolutionary suggestion should have come from one outside the medical profession.

"But it was not until the introduction of Salvarsan, two hundred and fifty years later, that really serious attention was given to the subject of intravenous medication. Before that time the action of medicinal remedies was generally supposed to be dependent upon their predilection for certain tissues and organs. Practically no studies had been made for the purpose of ascertaining what effect such remedies produced upon the blood and body fluids. The introduction of Salvarsan, however, focused attention upon the possibilities of intravenous administration of other drugs, such as the iodides, iron, and the salicylates, and a new viewpoint was developed concerning the process which brings about their characteristic reactions."

Physicians interested in intravenous medication, and that includes most of us, will be interested in the clinical reports, reprints and the *Journal of Intravenous Therapy*, which will be sent to AMERICAN PHYSICIAN readers on request. Address: New York Intravenous Laboratory, 100 W. 21st St., New York.

Have You Tried It?

In a discussion on the value of antiseptics, one doctor, known to be a very successful practitioner, was very emphatic in his expression of opinion regarding Alkalol.

"You may say what you like," he concluded, "but in my mind there is absolutely no doubt of the practical efficiency of Alkalol. I know it because I have tried it. Having gotten results, I use it. If a patient comes to you with an inflamed conjunctiva, sore throat, tonsillitis or a mouth that feels as if it had been sand-papered, use Alkalol and note its prompt and satisfactory action.

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(*Helpful Points continued one leaf over*)

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Wreck Victims Treated With Hypo-Units

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On the scene of any catastrophe, whether fire, wreck or panic, it is impossible to administer a hypodermic without loss of time and inconvenience; every minute of delay is an eternity of agony to the sufferer; the Mulford Hypo-Unit is instantaneous—immediate administration, immediate relief.

Hypertension—Facts and Figures

Hypertension, or as it is more commonly referred to, high blood pressure, is a subject that is constantly receiving more attention from the more progressive class of medical men. High blood pressure always means something, and while it is true that there has been a tendency to overestimate its value as a symptom and even a disposition on the part of some careless thinkers to consider it more or less of a fad, the fact remains that it is of vital importance in most cases and of valuable significance in all.

In order to successfully and satisfactorily treat hypertension, it is necessary first to understand thoroughly the technique called for in the making of accurate estimations of increased pressure, and, secondly, to understand thoroughly the significance of increased pressure readings in any given case. Then, and not until then, is the physician in a position to lay down effective treatment, which, by the way, consists not only of the administration of certain drug agents, but also of a very rigid overhauling of the patient's method and mode of living.

Facts and figures regarding hypertension, what it is, what it signifies, and how it can be treated efficiently, are set forth in a booklet, which has recently come from the press and is now being distributed gratis to any physician on request, by the makers of Pulvoids Natrium Comp. (High Tension, Dr. M. C. Thrush.)

This combination has for a number of years past been steadily growing in popularity and increasing in use among many progressive physicians. Judging from the clinical reports that have accumulated from its use, it may be relied upon as an efficient means in the treatment of high blood pressure.

This booklet and other data regarding the preparation can be obtained by writing to The Drug Products Co., Inc., 150 Meadow St., Long Island City, New York.

Cheapest in the Long Run

Wise car owners do not make the mistake of estimating the cost of lubricating oil by price alone—but take into account the more important element of saving on repair bills.

A high-grade oil, regardless of its price, will often be found the cheapest in the long run. Emco Oils, refined from Bradford, Penna., crude, are among the really cheap oils, as they are pure, have least possible free carbon content and are backed by a most liberal guarantee. For further information, address: Emery Manufacturing Co., Bradford, Pa.

(*Helpful Points continued one leaf over*)



COMBINES the delightful qualities of effervescence with the well-known digestive properties of Peptenzyme.

The powerful and effective action of Peptenzyme, supplemented with the tonic and refreshing effects of effervescence, thus insures both

PERMANENT BENEFIT AND PROMPT RELIEF

in gastralgia, nervous and fermentative dyspepsia, flatulence, atonic indigestion, and to relieve the gaseous fermentation that usually causes so much discomfort in digestive disorders.

It is palatable to the nth degree and gives the physician a cooling and refreshing beverage, free from any hint of medicine, yet pregnant with therapeutic value.

Converts the Distresses of Indigestion into a Smile

SOMETHING NEW

PEPTENZYME EFFERVESCENT GRANULES

REED & CARNRICK
JERSEY CITY, N.J.

Benzylets Are Tasteless

and free from any tendency to disturb the stomach; compare them in this respect with any of the solutions of benzyl-benzoate, one taste of which, were **you** the patient, would be quite q. s.

The most particular patients will readily take "Benzylets."

The most particular prescriber will concede their unquestionable ethical status.

The best-stocked druggists supply "Benzylets" only in ethically-labeled boxes of 24 gelatin globules, each carrying 5 min. of medicinally pure benzyl-benzoate.

Benzylets **Sharp & Dohme**

"The Wonder Remedy of the Age"

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For Internal Administration

The physicians who have employed **radio-activity** in the form of our RADIUM CAPSULES are enthusiastic over the remarkable results secured through their use. There are ample proofs for **knowing** that the radium emanations are incorporated in these Capsules. The photographic plate and electroscope, as well as the highly favorable clinical results, **prove it.** Convenient and accurate for internal administration. No possible harm can come from over-dosage.

Therapeutic Indications.—Gout, Rheumatism, Neuralgia, Eczema, Acne, Pruritus, Psoriasis, Glandular Enlargements, Chronic Ulcers, Arterio-Sclerosis, Nephritis, Diabetes, Menstrual Disorders, Neurasthenia, Impotence, Pre-Senility.

EXPERIENCED CLINICIANS have demonstrated the following therapeutic facts by administering Radium internally: Elimination of Carbon Dioxide and Uric Acid—marked increase of the red blood corpuscles and hemoglobin—Constant improvement of metabolic changes—Arthritis, Gout, Sciatica, Myalgia, promptly relieved—Pain in general yields quickly—Increases the quantity of urine—Regulates all glandular activity—It has proved a powerful aphrodisiac—It is a remarkably effective and harmless TONIC for the aged and infirm—In chronic skin affections its results are often but little short of wonderful—It lowers blood pressure, through its influence on the vasomotor nerves.

RADIUM CAPSULES are supplied at $2 per hundred or $15 for one thousand. Guaranteed radio-activity. Containers protected by heavy X-Ray Lead Foil.

SO YOU MAY CONVINCE YOURSELF by a thorough clinical test, Doctor, accept our INTRODUCTORY OFFER of $10 worth of these Capsules for only $5.

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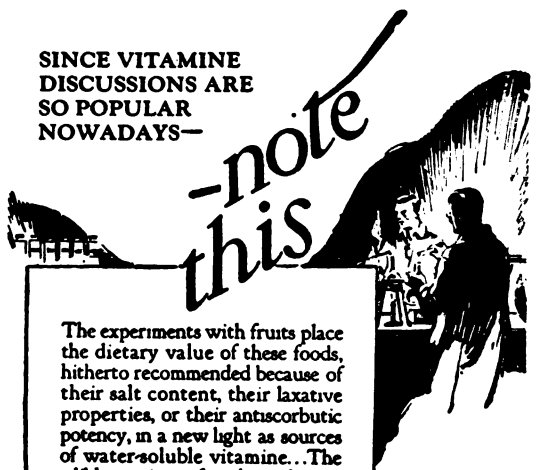
For the enclosed $5, send me at once, postpaid, insured, five hundred RADIUM CAPSULES, with complete directions, as per your special introductory offer in THE AMERICAN PHYSICIAN.

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SINCE VITAMINE DISCUSSIONS ARE SO POPULAR NOWADAYS—

-note this



The experiments with fruits place the dietary value of these foods, hitherto recommended because of their salt content, their laxative properties, or their antiscorbutic potency, in a new light as sources of water-soluble vitamine...The edible portions of apples and pears furnish some water-soluble vitamine, but prunes apparently are richer in this food-factor.

—from a summary of an investigation in the water-soluble vitamine content of fruits as published in the Journal of Biological Chemistry

Because they're *sun-dried*, Sunsweet Prunes lose little, if any, of their vitamine content in the drying process. No artificial heat is used in "curing" this fine, full-flavored fruit.

But vitamines—important as these growth elements may be—are not the major reason for urging prunes in the dietary of your patients. Properly prepared, these natural sweetmeats offer a *relish* that makes them decidedly eatable. Their simple fruit sugars are easily digested. Their salts and organic acids are readily assimilated. Nor should you overlook their traditional laxative value in mild [and often in obstinate] cases of constipation.

You will be interested in our semi-scientific brochure, "For the good that's in them" —and it's free. California Prune & Apricot Growers Inc., 180 Market St., San Jose, Cal.

SUNSWEET
CALIFORNIA'S NATURE-FLAVORED
Prunes

Will Increase Your Efficiency

It is a wise physician who invests in equipment which will increase his efficiency—this indeed is an investment that yields dividends.

Many clinicians are finding the Pulse Wave Recorder an aid in diagnosis and treatment that they cannot afford to do without. Turn to page — and you will find a proposition of the Sanborn Company, 1048 Commonwealth Ave., Boston, Mass., that will interest the active physician.

Demonstrate to Your Own Satisfaction

Every physician can demonstrate to his own satisfaction that the careful preparation and the scientific and clinical tests which go into the making of Nujol, have resulted in a mineral oil of assured purity, quality and efficacy. Sample and authoritative literature will be sent gratis. Turn to page — and send in the coupon.

A Dependable Product

Hydroleine is a pleasant, palatable, easily assimilable emulsion of pure Cod Liver Oil, and is a powerful blood enricher and tissue builder, increasing the power of resistance of the body, fortifying against disease attack and fending off germ invasion. Hydroleine is an old and proven product, and has gained and holds many friends through its dependable qualities.

For booklet and sample, mention THE AMERICAN PHYSICIAN, and address: Century National Chemical Co., 86 Warren St., New York.

A Complete Baby Food

Nestle's Milk Food is not a modifier, it is a concentrated dry milk powder, already modified with cereals and sugar that only requires the addition of water and boiling for one minute to provide a complete food presenting the elements the infant needs to assure normal growth.

A liberal supply of samples for professional use and copies of "The Mother Book" for distribution to your patients, will be sent to AMERICAN PHYSICIAN readers on request. Address: Nestle's Food Company, Nestle Building, New York, or 112 Market St., San Francisco.

Successful in Treating Tonsilitis

Benzomint—a compound of sodium benzoate with alkaloids of calisaya—has been found to be an effective internal remedy for tonsillitis. Benzomint is antiseptic and antipyretic. It acts both locally and systemically in reducing inflammation and congestion, in rebuilding strength and quickly relieving all constitutional symptoms. It has a clinical history covering many years of consistently successful treatments.

Samples and literature will be sent to AMERICAN PHYSICIAN readers on request, address: Throat Specialties Laboratory (Milburn Pharmacal Company, Inc.), Baldwin, L. I., N. Y.

(Helpful Points continued one leaf over.)

MORPHINE
NEW HOME TREATMENT
For all Drug and Alcoholic Addictions—Doctor: treat these cases at home privately yourself. No pain, very little discomfort. Sanitarium maintained for those who desire. Enclose stamp for full information.
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Endocrine Derangements
and
Functional Unbalance of the Ductless Glands

Endocrine products have largely replaced other medication in the many conditions now known to be due to functional impairment and unbalance of the ductless glands.
Attention is particularly called to the following perfected pluriglandular formula.

Prosto-Orchoid Compound (Mayson) is the most successful pluriglandular remedy for the treatment of Impotence, Sexual Neurasthenia, Prostatic Disorders, Hypertrophied Prostate, with Bladder Irritation, and Prostatorrhea.

Prosto-Orchoid Compound (Mayson) contains prostate, orchic extract, lymph glands, with nuclein in suitable proportions. The synegistic relations of the prostate and orchic glands are perhaps more pronounced than those of any other two glands in the body, and physicians are obtaining the most gratifying clinical results by the use of this remedy. Cases are reported in which the need of catheterization with its attendant danger of infection was avoided by the persistent use of this formula..

Prosto-Orchoid Compound (Mayson) is indicated and has been used with success in Chronic Prostatitis, Senility, and after Prostatectomy. *It is a most valuable Genito-Urinary tonic.*

Try it in your stubborn cases

Package of 100 tablets in sanitary glass vials, $3.50

Booklet containing list of perfected pluriglandular formulas, therapeutic uses, etc., free.

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The Fat-Soluble Vitamin "A" and Alkaloids

or active principles of *Cod Liver Oil* are presented in a palatable form in

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Prescribed for over thirty years with gratifying results in the so-called "deficiency diseases"

Recent studies on the Vitamine have confirmed previous clinical evidence and have definitely established the therapeutic value of these Chapoteaut preparations in the routine treatment of—

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Prescribe in original vials

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10 Per Cent. Electrolytic Iodine in Oil

An Effective Remedy in

Gonorrhea

5 cc. of Guioleum should be introduced into the urethra daily by means of an ordinary urethral syringe and retained five to ten minutes



PRICES:
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Specialties *for* TONSILLITIS

Benzomint

INTERNAL REMEDY

Compound of Sodium Benzoate with Alkaloids of Calisaya

A TIME-TESTED, highly therapeutic formula which has proved a veritable wonder worker in many thousands of cases of Tonsillitis. Benzomint has pronounced antiseptic and antipyretic properties. It soothes instantly the intense pain from swollen, inflamed glands, and quickly counteracts both local and systemic infection.

Glycodin

(GARGLE)

AN efficacious astringent and antiseptic gargle of great value in the treatment of Tonsillitis.

Pint, $1.00; Five Pints, $4.50; Gallon, $6.00. Either preparation. Send for samples and literature

THROAT SPECIALTIES LABORATORIES

(MILBURN PHARMACAL CO., INC.)

BALDWIN, L. I. NEW YORK

McKesson & Robbins Wholesale Distributors New York City

Rhinol In Affections of Nose and Throat

Rhinol in Affections of Nose and Throat .....

A Boston physician writes of Rhinol: "You have a very superior preparation, and I was astounded at the quick results produced. I cleared up my own acute frontal sinusitis in a few days, then gave it to a hay-fever patient, who has been more relieved than by anything she has ever used. I dread being without the outfit for fear I may have another attack of sinusitis."

The price complete is $3.00—refilled packages, $2.50. Address: Rhinol Company, Inc., 1416 Broadway, New York.

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Constipation is one of the problems which seem to be ever with us. It has been approached from many different angles. Regulin offers a new principle in the conquest of chronic constipation—treat the bowel contents rather than the bowels themselves. Regulin will be found to correct the physical condition of the intestinal mass, restoring its normal bulk and softness and resulting in a resumption of natural bowel function. Thus Regulin is a true bowel corrective. For samples, address: Reinschild Chemical Co., 47-49 Barclay St., New York City.

A Constructive Educational Campaign

February 27 to March 4 will be Prune Week. This is the first National Prune Week inaugurated by the California Prune and Apricot Growers—a co-operative state-wide association of 11,000 growers.

The nation-wide advertising featuring Sunsweet Prunes, in addition to fostering interest in the particular brand, has served a valuable and varied educational purpose. In stimulating an increased desire and demand for fruit-foods, such as prunes and apricots, a better health understanding on the part of the public at large has resulted.

Every physician should know about the particular qualities these fruit-foods embody and should be able to give his patients any information they may desire, as a result of the interest created by the very constructive campaign that is in progress. If you have not yet received it, you will find the health-brochure "For the Good That's in Them" of interest and benefit. It will be sent to you gladly on request. Address: California Prune and Apricot Growers, Inc., 180 Market St., San Jose, Calif.

The Importance of Mouth Cleanliness

The mouth offers an ideal dwelling place for germs; it is of just the right temperature and moisture, and unless regularly cleansed, there are always enough decomposing food particles in the deep tissue folds and around the teeth to provide a favorable medium for the growth of all sorts of pathogenic bacteria. Oral cleanliness has become, therefore, an essential detail in the prevention of many diseases.

For cleansing the mouth, there is no antiseptic more servicable in every way than Dioxogen. Owing its germicidal qualities to pure oxygen, it penetrates to the deepest recesses of the mouth, where it softens and detaches all accumulated material, and cleanses and purifies everything with which it comes in contact.

Dioxogen, in consequence, can be used as freely as necessary, or desired, in even the youngest patients, with absolute certainty not only that it will keep the mouth and teeth in a clean and wholesome condition, but that it will always do its work in a safe, pleasant and agreeable manner.

(*Helpful Points continued one leaf over*)



Liquid Petrolatum, the Emollient and Lubricant

"Liquid petrolatum . . . when taken into the stomach passes into the intestinal tract unchanged; is not digested by the enzymes and is thus able to exert to the full its emollient and lubricating action. It is absolutely non-irritating."

"A Prominent Medical Authority"

NUJOL is the most suitable liquid petrolatum for use in intestinal stasis. The unexampled resources and experience of its makers, the Standard Oil Co. (New Jersey), guarantee its purity, wholesomeness and applicability to general requirements.

Nujol is scientifically adapted by both viscosity and specific gravity to the physiology of the human intestines. In determining a viscosity best adapted to general requirements, the makers of Nujol tried consistencies ranging from a water-like fluid to a jelly. The viscosity of Nujol was fixed upon after exhaustive clinical test and research and is in accord with the highest medical opinion.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis. See coupon below.

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REG. U.S. PAT. OFF.

A Lubricant, not a Laxative

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Please send booklets marked:

☐ "In General Practice" ☐ "In Women and Children"
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Free Trial—Use as You Pay

After trial send us only $5.00 a month until the low total price of $59.85 is paid, and the machine is yours. This is absolutely the most generous typewriter offer we ever made. Do not rent a machine when you can pay $5.00 a month and own one. Think of it—Buying a $100.00 Machine for $59.85. Cash price $54.00, just a little more than half its original price.

L. C. SMITH No. 5 WITH SPECIAL MEDICAL KEYBOARD

Perfect machines, Correspondence size, Keyboard of Standard Universal arrangement, 38 Keys, writing 76 characters, with four medical characters and special paper holders for writing cards and prescriptions. The entire line of writing completely visible at all times, has the tabulator, the two color ribbon, with automatic reverse, the back spacer, ball bearing type bars, ball bearing carriage action, ball bearing shift action, in fact, every late style feature and modern operating convenience. Comes to you with everything complete; tools, cover, operating book and instructions—nothing extra to buy.

You cannot imagine the perfection of this beautiful reconstructed typewriter until you have seen it. We have sold thousands of these perfect late style machines at this bargain price and every one of these thousands of satisfied customers had this beautiful, strictly up-to-date machine on five days' free trial before deciding to buy it. We will send it to you F. O. B. Chicago for five days' free trial. It will sell itself, but if you are not satisfied that this is the greatest typewriter you ever saw, you can return it at our expense. You won't want to return it after you try it, for we are sure you cannot equal this wonderful value anywhere.

SEND NO MONEY **Put in Your Order NOW** **$4.85** **AFTER TRIAL**

When the typewriter arrives deposit with the express agent $4.85 and take the machine for five days' trial. If you are convinced that it is the best typewriter you ever saw keep it and send us $5.00 a month until our bargain price of $59.85 is paid. If you don't want it, return it to the express agent, receive your $4.85 and return the machine. We will pay the return express charges. This machine is guaranteed just as if you paid $100.00 for it. It is standard. Over half a million people own and use these typewriters and think them the best ever manufactured. The supply at this price is limited, the price will probably be raised when next advertisement appears, so don't delay. Fill in the coupon to-day—the typewriter will be shipped promptly. There is no red tape. We employ no solicitors—no collectors—no chattel mortgage. It is simply understood that we retain title to the machine until full $59.85 is paid. You cannot lose. You will perhaps never have a greater typewriter opportunity. Do not send us one cent. Get the coupon in the mails to-day—sure.

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Ship me the L. C. Smith Typewriter. F. O. B. Chicago, as described in this advertisement. I will pay you $5.00 monthly as rent until the $55.00 balance of the SPECIAL $59.85 sale price is paid. The title to remain in you until fully paid for. It is understood that I have five days in which to examine and try the typewriter. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee.

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Home Treatment of Tuberculosis

With over a million cases of tuberculosis, home treatment is absolutely necessary. It consists of rest, food and fresh air, supplemented by proper medical attention and medication.

Dr. Beverly Robinson has stated "that we have absolutely no medical treatment of pulmonary tuberculosis at all equal to the creosote treatment properly used and insisted upon."

Mistura Creosote Comp. (Killgore's) contains the genuine wood creosote unchanged by the addition of chemicals and will meet all the requirements of the creosote treatment. Sample will be sent to AMERICAN PHYSICIAN readers, on request. Address: Charles Killgore, 82 Felton St., New York.

Quality Products At a 30 Per cent Saving

More and more is modern therapeutics recognizing the value of the intravenous method. Every physician should be informed on the advantages of the method and be ready to use intravenous medication when indicated.

George A. Breon Co. have been pioneers in this field and today are one of the most progressive and largest producers of intravenous products, from the newest and best of proved formulae. Now they are offering their quality products at a saving of 30 per cent. They have always set the highest standard of quality for their products, and now they are establishing a price that is of further advantage to the physician.

Write for latest price lists today, it will mean a considerable saving to you. Address: George A. Breon Co., Dept. 102, Coca-Cola Bldg., Kansas City, Mo.

In the Menopause

Maranon said: "The menopause is not due simply to insufficiency of the genital glands, but is the expression of an 'endocrine crisis' complex, varying in different persons, of which the said insufficiency of the genital glands is the central factor, but with it, other glandular disturbances play an essential part."

The menopause, therefore, is a functional pluriglandular derangement and is best treated by pluriglandular therapy. In hypotensive cases, good results may be had by the use of Hormotone, and in high blood pressure cases, Hormotone Without Post-Pituitary is indicated. For further information address: G. W. Carnrick Co., 419 Canal St., New York.

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The best immunizing response in pneumonia is obtained during the first twenty-four hours after the initial chill. Every hour being vitally important, successful immunologists make inoculations in respiratory infections at their first call. Many find it easy to be prepared by carrying an assortment of Sherman's Polyvalent Vaccines and self-sterilizing syringe in convenient case, made by G. H. Sherman, M.D., Detroit, Mich.—largest producer of stock and autogenous vaccine.

For Oral Hygiene

Dr. R. B. Waite's Anti-py-O Dental Cream best meets the requirements of oral hygiene. It is antiseptic and a thorough cleanser; it leaves the mouth refreshed and wholesome, and helps to eliminate dangerous bacteria. Sample tubes and a full-size tube for your personal use, of Anti-Py-O Dental Cream, will be sent to AMERICAN PHYSICIAN READERS. Turn to page 94 and send in the coupon.

(Helpful Points continued one leaf over.)

USOLINE
The ORIGINAL Russian Mineral Oil

USOLINE was the first mineral oil put on the market in this country. It has never been extensively advertised, and exaggerated claims have never been made for it, therefore physicians have been steadily and increasingly prescribing it for internal use year by year.

We again present to you USOLINE as a highly refined 100% imported Russian Mineral Oil, with properly adjusted gravity and viscosity; containing no sulphur or acid impurities, no bloom or fluorescence and no taste.

The consensus of opinion of eight leading clinicians favored Imported Russian Oil (see A. M. A. Journal, Vol. 64, p. 808).

For clinical test, a 6 oz. bottle of USOLINE will be sent you free. Write for it.

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Rent This TYCOS Nine Months Then It's Yours

$2.50 Monthly Brings It

The new 1922 model celebrated Blood Pressure Apparatus, Dr. Rogers' Sphygmomanometer is very accurately made and registers both systolic and diastolic pressures. The cash price of the Tycos everywhere is $25.00. We will send it to you on receipt of only $2.50 and, if after ten days' trial, you wish to keep it, simply pay the balance—$22.50—the same as rent—in nine monthly payments of $2.50 each. You pay only the cash price (no interest—no extras) and have nine full months in which to make it pay for itself.

Leather Case and Booklet Free

With every Tycos is included **Free** a genuine morocco leather case. You can put your Tycos into this case and carry the entire instrument in your pocket. Besides the case, we give you **Free**, a 44-page booklet which explains accurately, thoroughly and plainly just how and why the Sphygmomanometer is essential to the intelligent practice of medicine.

Ten Days' Trial—Money Back

Send today. Just sign and mail the coupon below—enclose $2.50 for first month's rent and we will immediately send you the instrument and you will only have to pay $2.50 each month until the cash price, $25.00, is paid in full. Send that $2.50 today. Remember, we give ten days' trial and return your money if you are not satisfied. The price for all cash with order is just the same, $25.00.

SIGN AND MAIL COUPON

A. S. ALOE CO. Factory Distributors. 551 Olive St., St. Louis, Mo.

I enclose first payment, $2.50, for which send me Dr. Rogers' TYCOS and Outfit on ten days' trial as per your offer. I agree that the title is to remain in you until paid in full.

Name .....

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"RIEDEL"

To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

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LISTERS DIABETIC FLOUR

Strictly Starch-free. Produces Bread, Muffins, Pastry that makes the distressing features of

DIABETES Grow Less and Less

Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85

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The Therapeutic Power of Penetrative Light and Heat in Skin Diseases has been Proven.

In the microbic skin diseases, such as acne, furunculosis, erysipelas, tinea sycosis, and similar infections, the

STERLING THERAPEUTIC LAMP

has been found of distinct value. Heat waves bring pure arterial blood to the part and take away the venous blood by dilating the smaller vessels in the periphery. The main action of the lamp, however, in germ or microbe diseases is, that the germs cannot live in light. The penetrating effect of the 2000 c.p. lamp is fatal to most germs in 10 minutes' time.

Illustrated booklet and literature sent on request.

Sterling Therapeutic Lamp Co.

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Desk 203

A Complete Line of Intravenous Products

To the modern physician, awake to the advantages of direct medication, a complete line of pure and stable products, which may be injected into the blood stream with the certainty of no untoward effect, is offered by the Intravenous Products Co. of America, Inc., 121 Madison Ave., New York City.

For catalogue giving complete formulae of specialties, reprints of interesting articles, and price lists, address as above. Correspondence is invited and will be promptly replied to by one of the physicians on the company's staff.

The Remedy For Hemorrhages

Many physicians have found Styptysate the effective remedy for hemorrhages. It is of particular advantage in menorrhagia and metrorrhegia, and has also been found to be of great value in vesical hemorrhages and hemorrhages from mucous membranes in general.

Results in many cases have been surprising; there are no secondary ill-effects upon circulation or respiration; Styptysate is therefore a safe remedy. Turn to page — and see special introductory offer.

Assimilable Iron

In post-febrile anemia and convalescence from acute illness, where hematinic reconstructive treatment is indicated, you will find that Hemaboloids is especially adapted. It is bland, palatable and easily acceptable to the irritable gastric mucous membrane, for it is axiomatic that organic iron is assimilable iron and free from all harsh or constipating effects.

Samples and literature will be sent to you. Mention THE AMERICAN PHYSICIAN and address: The Palisade Manufacturing Company, Yonkers, N. Y.

They Give Results

Many physicians have found that Merz Santal Comp. Capsules are unsurpassed for happy effect in urethritis, cystitis, prostatic troubles, difficult micturition, etc.

There are new prices on these excellent capsules now, and dispensing physicians can buy direct. For prices and samples, mention THE AMERICAN PHYSICIAN, and address: The Merz Capsule Co., Detroit, Mich.

Interesting Monographs

As a result of his efforts aimed at "the development of information pertaining to the internal secretions in general practice," Dr. Harrower has for some months been publishing a quarterly journal called *Harrower's Monographs on Internal Secretions.* The first two issues are ready, the third is in press, and the fourth is ready for press.

For full information, subscription price, etc., address: The Harrower Laboratory, Library Dept., Glendale, Calif.

Relief of Pain and Congestion

Atophan gives you, not a "hit and miss" relief of pain and congestion at the expense of the heart, kidneys, intestines and nervous system, like in the old-time coal-tar derivatives—but a very prompt and reliable analgesic and decongestive action, with notable freedom from heart-depressant, kidney irritant, constipating and cumulative toxic by-effects.

Information, literature and ample trial quantity will be sent to AMERICAN PHYSICIAN readers. Address: Schering & Glatz, Inc., 150 Maiden Lane, New York.

(Helpful Points continued one leaf over)

The Peculiar Advantage
of the
Marvel "Whirling Spray" Syringe



is that **The Marvel,** by its centrifugal action, **dilates and flushes** the vaginal passage with **a volume** of whirling fluid, which **smoothes** out the folds and permits **the injection** to come **in contact** with its entire **surface.**

Prominent physicians and gynecologists **everywhere** recommend the **MARVEL** Syringe in cases of **Leucorrhea, Vaginitis,** and other vaginal disease. **It always** gives satisfaction.

The Marvel Company was awarded the Gold Medal Diploma and Certificate of Approbation by the Societe D'Hygiene de France, at Paris, Oct. 9, 1902

All Druggists** and Dealers in Surgical Instruments **sell it. For literature, address

MARVEL COMPANY, 25 W. 45th Street, New York

TAUROCOL
TABLETS
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A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

FOR

Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS
(TOROCOL)

With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.
DETROIT, MICH.

Malnutrition



if produced by an obstructive sluggish intestine and the gratifying results obtained by using

Pluto Water

in these cases show it to be the best agent obtainable in disorders of this kind.



Many practitioners direct convalescent patients to the spring for rest and complete treatment.

French Lick Springs Hotel Co.
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Nestlé's Milk Food is a concentrated dry milk powder already modified with cereals and sugar that only requires the addition of water and boiling for one minute to provide a complete food presenting everything the infant needs to assure normal growth.



NESTLÉ'S MILK FOOD

A liberal supply of samples for professional use and copies of "The Mother Book" for distribution to your patients sent on request.

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By means of a tremendous purchase from the U. S. Government of unused Army Operating Tables, it is possible to offer a very special bargain to physicians—$19.75 instead of $40, and on a very easy payment plan, $2.50 per month. Just $2.25 brings the table—try it for thirty days and if not thoroughly satisfactory, return it and your money will be refunded. It seems to us there could not be a fairer offer. If you prefer to pay cash, 10 per cent. discount is allowed, making the price $17.78. Address A. S. Aloe Co., 551 Olive St., St. Louis, Mo.

Complete Antisepsis

Chinosol is described by authorities as: "A powerful antiseptic, somewhat stronger in this respect that mercuric chloride and considerably stronger than phenol." Another product by the same manufacturer, "Asepti-kons," vaginal suppositories, produce complete antisepsis, but are non-poisonous, non-irritating and give no injury to membranes. They are indicated in cervicitis, leucorrhea, specific and non-specific vulvo-vaginitis, and in all cases where complete vaginal antisepsis is desired. For further information, address: Parmele Pharmacal Co., 47-49 West St., New York.

Truly Tasteless!

Kellogg's Tasteless Castor Oil is the result of painstaking laboratory research, undertaken to secure, by super-refinement, a castor oil especially adapted for medicinal use. It is pure, unflavored, unadulterated, undisguised castor oil—truly tasteless. Kellogg's Tasteless Castor Oil does not disturb the stomach or irritate the bowel; in fact, the after-effect is soothing to the mucous membrane. You will find it an efficient agent to

(*Helpful Points continued one leaf over*)

A Stand-By in Uterine Troubles

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(BEACH)

The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles

Sample and Formula on Request

THE VIBURNO COMPANY

116 Maiden Lane, New York

"The Answer to Every Question Is Found in Experience"

For instance, What is the best agent for the relief of an irritated or inflamed nasopharynx?
ALKALOL. To prove it—use it and watch results. ALKALOL is not only remedial but prophylactic. Why? Because it helps to restore normal mucous membrane tonus and restores secretory normalcy. Test ALKALOL in an inflamed eye, a suppurating ear, an "angry" throat, a "running" nose. Its results will demonstrate its practical worth. So too in cystitis, urethritis, vaginitis, in skin irritation, internally as an antacid, ALKALOL is the something different that assures results, because it acts to assist Nature, not in spite of her.

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RHINOL

in All Affections of the Nose and Throat

The Rhinol Company, Inc.,

Dear Sirs:

Permit me to state that we have used Rhinol at the Quality Hill Sanatorium with several of our patients that were suffering from Hayfever. The results were indeed good and pleasing. Will be glad to have you publish this statement for the benefit of the medical profession.

(Signed) J. S. MASSEY, M.D.,
Physician and Surgeon.

Quality Hill Sanatorium,
Monroe, N. C.

July 8, 1921.

The Rhinol Company, Inc.,

Gentlemen:

I want to inform you that during the last year I have treated a large number of patients suffering from Coryza, Chronic Rhinitis, Pharyngitis, Laryngitis and Hayfever with your Rhinol, and it gives me great pleasure to state that the results have been very satisfactory in each instance. Rhinol is one of my standbys in my practice and now that I have realized its great therapeutic value in the treatment of the above named conditions, I could not do without it. You may make any use of this letter in any way you may desire.

Sincerely yours,
(Signed) CHAS. B. GRAF, M.D.,
Physician and Surgeon.
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Gentlemen:

Enclosed please find check for three dollars for which send me one complete Rhinol outfit. You have a very superior preparation, and I was astounded at the quick results produced.

I am very much disappointed that you cannot or will not supply my druggist, Theo. Metcalf Co., as I would like to prescribe your outfit for some of my patients. I cleared up my own acute frontal sinusitis in a few days, then gave it to a hayfever patient who has been more relieved than by anything she has ever used. I dread being without the outfit for fear I may have another attack of sinusitis. Hoping for an outfit by return mail, I am, gratefully yours,

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Hip, Thigh or Leg Set. Splints Rented Ready to Apply. Patients pay $35.00 for 2 months or less. Your treatment with the AMBULATORY PNEUMATIC SPLINT, in or out of bed, secures good bone union, comfort, strength and health in the least possible time. To order: State sex of patient; fracture; which limb; length perineum to heel; circumference of chest; hips; and thigh at perineum. Wire and mail orders expressed on receipt, adjusted to fit, with complete directions for application. Specify our Splint and our AMBUMATIC WASHABLE ABDOMINAL



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Samples on request

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GRIFFITH'S COMPOUND MIXTURE

of Guaiac, Stillingia, etc.

A Powerful Alterative — Composed of Guaiac, Stillingia, Prickly Ash, Turkey Corn, Colchicum, Black Cohosh, Sarsaparilla, Salicylates of the Alkalies, Iodide of Potassa and other well known remedies, combined in such a manner that it is tolerated by all patients suffering from Rheumatism, Gout, Lumbago, Neuralgia, Sciatica, etc.

Prescribe it for "That Stubborn Case"

To Physicians only—we will upon request, send a regular eight ounce bottle ($1.25 size), for trial, upon receipt of 25 cents for express charges.

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Woodlawn Maternity Home

A strictly private and ethical Home Retreat for unmarried girls and women during pregnancy and confinement, with best medical care, nursing and protection. A home found for the infant by adoption if desired. All publicity avoided. Prices reasonable. For particulars, prices and terms, address
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moisten and soften the fecal mass, and to clean out the bowel thoroughly and gently.

An interesting booklet, "Therapeutic Uses of Oleum Ricini" and sample will be sent to AMERICAN PHYSICIAN readers on request. Address the sole distributor, Walter Janvier, Inc., 417-21 Canal Street, New York City.

An Ideal Arsenical

Sodium Diarsenol marks a distinct advance in syphilology. It dissolves very quickly in water, giving a solution ready for immediate injection. No addition of sodium hydroxide is necessary. It has the therapeutic advantage of arsphenamine with the solubility and convenience of neo-arsphenamine, and gives very favorable clinical results. Neutralization with alkali being obviated, there is no undue handling and consequent decomposition of the highly reactive solution. Samples and literature will be sent to AMERICAN PHYSICIAN readers, address: Diarsenol Company, Inc., in Buffalo, Boston, or Atlanta.

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Your patient's reaction to diagnosis is important to *you*. If, when you make diagnosis, you not only tell your patient what is wrong, but actually *show* him, you create an everlasting impression. When he leaves your consulting room he feels that you have rendered him a service of inestimable value.

A Pilz Anatomical Manikin installed in your office is invaluable in explaining diagnosis and it keeps you from ever "getting stale" in anatomy. They are life size, female (complete with elaborate obstetrical attachments), price $18.00; male, $15.00; sexless, $15.00. Sent on receipt of New York check or C. O. D., and a money-back quarantee with every Pilz Manikin. Free booklet will be gladly sent on request. Address: American Thermo-Ware Co., 16 B. Warren St., New York.

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If, when you make diagnosis, you not only tell your patient what is wrong but actually *show* him, you create an everlasting impression. When he leaves your consulting room he feels that you have rendered him a service of inestimable value.

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Installed in office or consulting room is invaluable in explaining diagnosis and also in keeping you from ever "getting stale" in anatomy.

This suggestion is worthy of your careful consideration.

The Pilz Manikin is lithographed in natural colors—built in hinged layers showing every part of the body in its relation to every other part—life size—complete—absolutely accurate. Used by physicians and medical institutions from coast to coast.

LIFE SIZE—5'-5" High

FEMALE $18.00
(Complete with elaborate obstetrical attachments)
MALE 15.00
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Sent on receipt of New York check or C. O. D. Free booklet furnished upon request.

Money back guarantee with every Pilz Manikin.

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(SILVER-ARSPHENAMINE-METZ)

The sodium salt of silver-diamino-dihydroxy-arsenobenzene

RELATIVE infrequency of reaction, rapid disappearance of contagious lesions, and general therapeutic effectiveness seem to indicate that Silver-Salvarsan is a drug of real value in the treatment of syphilis.



Trade Mark
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Silver-Salvarsan requires no alkalinization and its ease of administration commends it to many practitioners.

More than two million injections of Silver-Salvarsan have been given in the United States and abroad.

HA-METZ LABORATORIES, Inc.
One-Twenty-Two Hudson Street, New York.

AMPHO-PHENIQUE

THE POWERFUL GERMICIDAL INFLUENCE OF

CAMPHO-PHENIQUE

Gives it the widest range of application in surgical conditions.

As a first aid dressing to incised or lacerated wounds, ***CAMPHO-PHENIQUE*** holds high rank as a preventive of infection and as a means of hastening cicatrization. Swab out the wound thoroughly with undiluted ***Campho-Phenique*** and dress with same. In minor surgical procedures ***Campho-Phenique*** is the ideal dressing. Saturate with it and pour on more from time to time. In most instances it will not be necessary to remove the dressing for several days.

CAMPHO-PHENIQUE LIQUID, small size 30c, large size $1.20
CAMPHO-PHENIQUE POWDER, small size 30c, large size 75c
Samples and Literature on request.

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A simplified polygraph for the active practitioner.

Tracings from the jugular vein and brachial or radial artery; apex beat may be taken if desired.

Presents a number of advantages over the usual forms of polygraph.

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EMCO AUTOMOBILE OIL Nº300 EMERY MFG CO

Cheapness in lubricating oil is not measured in cost of oil, but in saving of repair bills. Buy a high grade oil regardless of its price and you will find it the cheapest.

Emco Oils, refined from Bradford Penna., Crude, are among the *really* cheap oils as they are pure, have least possible free carbon content and are backed by a most liberal guarantee.

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A Convenient Place Where You Can Deal With Confidence; and get information—commercial, scientific, general—helpful to you and reliable.

We believe the right kind of medical journal advertising is truly useful to the medical profession. We seek to promote and extend that usefulness.

Our Advertising Standards

Advertisements must give honest service to our readers and their patients—is the *basic principle* for these standards and for the conduct of THE AMERICAN PHYSICIAN'S advertising pages.

Our attitude in applying these standards is not one of narrow technicality but of *practical service*—

Advertisements must give honest service to our readers and their patients.

Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

Fraudulent pharmaceuticals; those making dishonest claims.

Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

Pharmaceuticals and other mixtures containing narcotics or other habit-inducing drugs in quantities sufficient to promote their repetition on prescription (chloral-bearing proprietaries, etc.).

Potent pharmaceuticals which justly merit professional disapproval because of their lay advertising or *manifestly* unethical exploitation.

Financial advertisements that claim returns not compatible with conservative investment. Only *conservative* investments are advertised.

Further - - -

Advertising copy is subject to revision by the editorial staff.

THE AMERICAN PHYSICIAN agrees *heartily* with the *principles* of the Council on Pharmacy and Chemistry of the American Medical Association and we exclude from our advertising pages such pharmaceutical products as they have definitely shown to be unworthy of professional confidence and the manufacturers of which have not removed the cause of objection; but we do not accept such findings as are based on academic data without due recognition of general clinical experience.

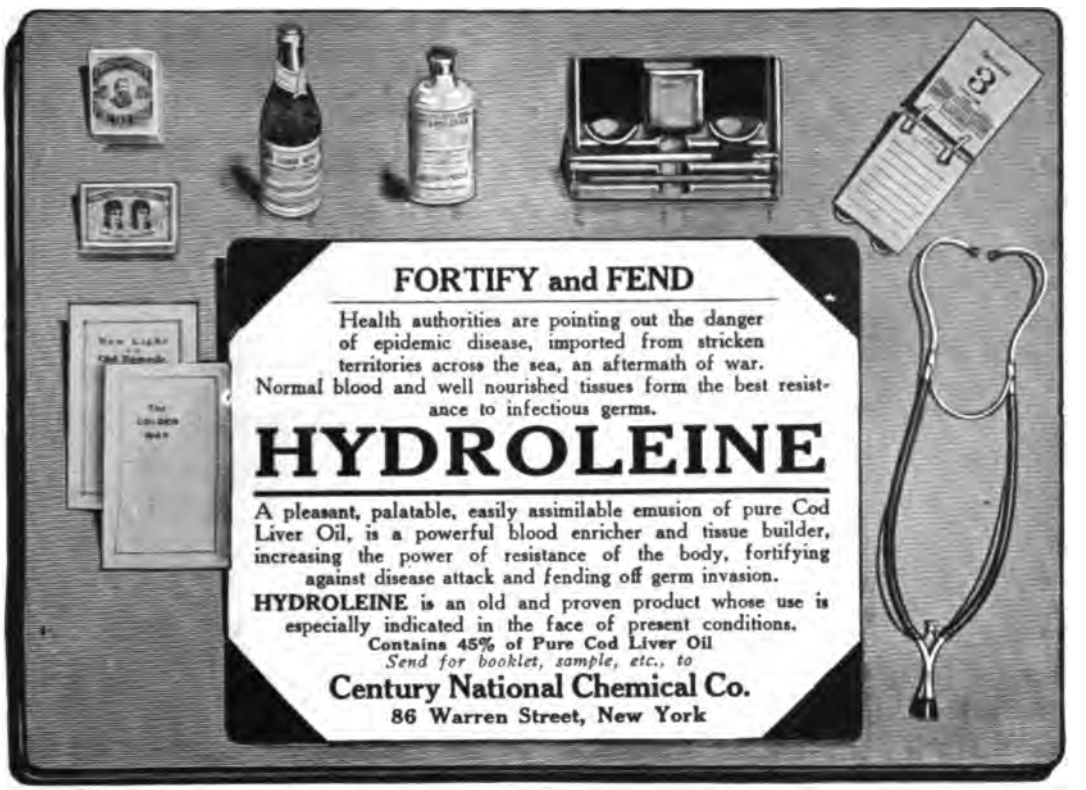
Concerning formulæ, THE AMERICAN PHYSICIAN is urging pharmaceutical manufacturers to give full therapeutic data regarding formulæ, stating quantitatively active medicinal content, in order that physicians may intelligently prescribe. We do not accept advertising of secret pharmacueticals.

But We do not Decline - - -

Advertising of original drugs, compounds or preparations imitated in current editions of the U. S. Pharmacopœia or National Formulary (except habit-inducing preparations); new products that seem to be honest and valuable, but which have not been reported upon by the Council on Pharmacy and Chemistry, or similar products whose manufacturers have not yet submitted the same to them for approval or rejection. We use our own judgment in these cases, but will always consider proper charges against this class of remedies.

Preparations containing a limited number of drugs in admix-

(Continued one leaf over)



FORTIFY and FEND

Health authorities are pointing out the danger of epidemic disease, imported from stricken territories across the sea, an aftermath of war. Normal blood and well nourished tissues form the best resistance to infectious germs.

HYDROLEINE

A pleasant, palatable, easily assimilable emusion of pure Cod Liver Oil, is a powerful blood enricher and tissue builder, increasing the power of resistance of the body, fortifying against disease attack and fending off germ invasion.

HYDROLEINE is an old and proven product whose use is especially indicated in the face of present conditions.

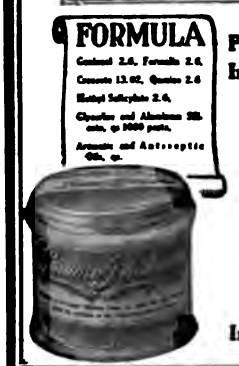
Contains 45% of Pure Cod Liver Oil

Send for booklet, sample, etc., to

Century National Chemical Co.

86 Warren Street, New York





PNEUMO-PHTHYSINE
In Analysis

In Synthesis

Pneumo-Phthysine

The best remedy (Pneumo-Phthysine) misapplied, may defeat the combined skill of all who have contributed to its success. More especially in the treatment of pneumonia, the unconquered foe of medical science.

If PNEUMO-PHTHYSINE has failed you, there is a reason.

How to Apply in PNEUMONIA

Apply a thin layer, thickness of silver dollar, to cheesecloth, cut to cover front of chest, including supra-clavicular space and reaching below to and including the true ribs. Do not heat plaster above temperature of body. Excessive heat hastens the evaporation of Guaiacol, so efficient as an antipyretic. Heat plaster to desired temperature by first applying to cheesecloth and then holding it over radiator, lamp, etc.

The liquid contents of application soon disappear through the absorptive property of the skin. The recurrence of pain or high temperature demands more frequent dressings.

Pneumo-Phthysine Chemical Co.
Chicago, Ill.



OUR tremendous purchase from U. S. Government of unused Army Operating Tables enables us to offer this cut-price bargain. Suitable for examining, treatment and operating. Adjusts easily. Made of steel enameled "snow white." Heel stirrups and leg holders free. Just $2.25 brings it to you. *Try it for 30 days; if not thoroughly satisfactory, return it and we will refund your money. If satisfied, send balance in 7 payments of $2.50 each. If you prefer to pay cash, we allow 10% discount, making the net cash price $17.78.*

A. S. ALOE CO.

551 OLIVE ST. ST. LOUIS, MO.

Our Advertising Standards

[Continued over from preceding page]

ture and in such form as may parallel a prescription written by a qualified physician who is seeking in the proprietary form elegant pharmacy in place of an extempore prescription.

Products composed of minor botanic remedies in adequate dosage, provided these drugs have a real place in medical literature and are well defined in materia medica, since many thousands of physicians esteem them despite pharmacologic data urged against them.

Minor antiseptics, soaps and toilet articles honestly advertised to both physicians and laymen without false or fraudulent statement; honestly advertised mineral waters and minor purgatives, food products, malt tonics, etc.

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IF YOU HAVE ANY UNSATISFACTORY DEALING WITH AN ADVERTISER IN THE AMERICAN PHYSICIAN, WRITE US THE PARTICULARS AT ONCE.

WE WILL IMMEDIATELY TAKE THE MATTER UP WITH THE ADVERTISER AND SEE THAT THE ADVERTISER EITHER MAKES GOOD, OR HIS ADVERTISEMENT IS ELIMINATED FROM THE AMERICAN PHYSICIAN'S PAGES.

New Prices on Merz Santal Comp. Capsules

DISPENSING PHYSICIANS CAN BUY OF US DIRECT

10 Minim Elastic Capsules, box of 100
Also boxes of 12 and boxes of 24

5 Minim Perles .....bottle of 36
5 " " .....bottle of 500
5 " " .....bottle of 1000

Unsurpassed for happy effect in Urethritis, Cystitis, Prostatic Troubles, difficult micturition, etc.

PRICES AND SAMPLES UPON APPLICATION

THE MERZ CAPSULE CO.
DETROIT, MICH.

THE STORM BINDER
AND ABDOMINAL SUPPORTER
(Patented)



THE STORM BINDER is adaptable to any case where an abdominal supporter is needed for man, woman or child.

THE STORM BINDER IS FOR GENERAL SUPPORT IN Visceroptosis, Obesity, etc., etc.

THE STORM BINDER IS FOR SPECIAL SUPPORT in hernia, floating kidney, descent of stomach, etc., etc.

THE STORM BINDER IS FOR POST-OPERATIVE SUPPORT of incisions in upper, middle and lower abdomen.

THE STORM BINDER IS FOR MATERNITY CASES, relieving the nausea and discomforts of pregnancy.

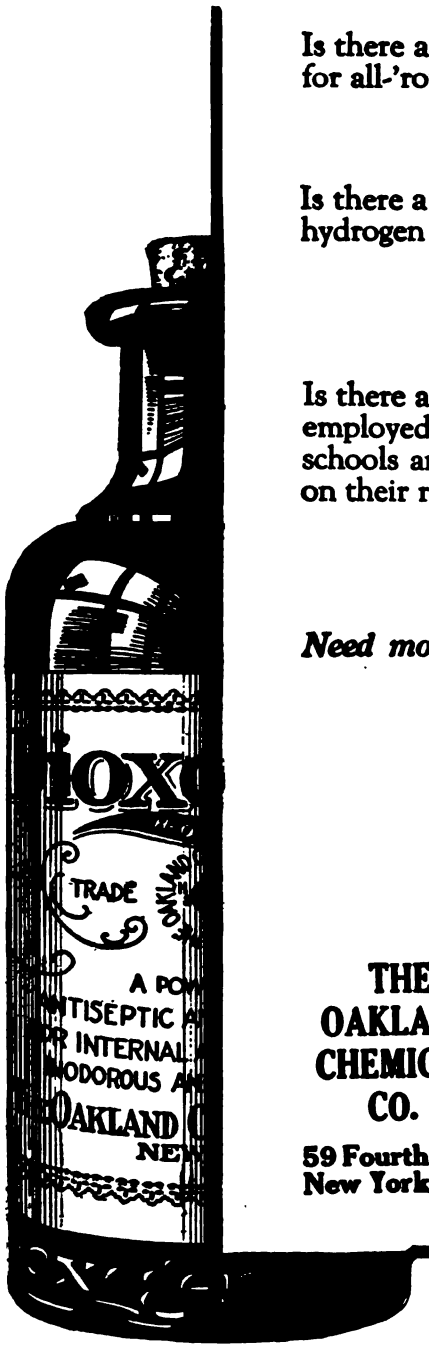
Ask for illustrated folder.

Orders filled in Philadelphia only—in 24 hours and sent by parcel post.

KATHERINE L. STORM, M.D.
1701 Diamond Street Philadelphia

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 166

Fair Questions



Is there a better or safer antiseptic, or germicide, for all-'round surgical, medical or hygienic use than

peroxide of hydrogen?

Is there a purer, more stable or better peroxide of hydrogen than

Dioxogen?

Is there any antiseptic more widely or generally employed in clinics, hospitals, offices, factories, schools and homes by physicians themselves, or on their recommendation, than

Dioxogen?

Need more be said?

THE OAKLAND CHEMICAL CO.

59 Fourth Ave. New York City

In purity and oxygen-liberating power, Dioxogen exceeds U. S. Phar. standards for H_2O_2 by 25%.

Dioxogen is odorless, almost tasteless, and entirely free from acids and acetanilid. It is also colorless and does not stain the skin.

Absolutely non-poisonous and non-irritating, Dioxogen is not only the most potent, but the safest and most harmless of antiseptics.

Applied to wounds, Dioxogen promptly destroys bacteria and stimulates the reparative processes of the tissues.

Dioxogen is the one powerful germicide at the physician's command that can be freely used anywhere and anytime without the slightest danger.

LIBERAL DOSAGE—MINIMUM EXPENSE

In specialising on Bacillus Bulgaricus Cultures under the scientific guidance of Professor Metchnikoff since 1906 and by constant co-operation and collaboration with eminent medical practitioners, we have arrived at the conviction that adequate dosage is one of the most important factors in the effective application of the Bacillus Bulgaricus to therapeutic purposes. Seven c.c. tubes have brought satisfactory results in cases where long-continued use of tablets showed no improvement whatsoever, and the administration of one ounce or two ounce doses, once or twice daily, gave surprisingly rapid results where the 7 c.c. doses had proved of little benefit, even when administered three to six times daily.

Acting on this scientific conclusion, we have worked out the problem of LIBERAL DOSAGE—MINIMUM EXPENSE. We have always maintained, and still steadfastly maintain, that it is unscientific and even dangerous to dispense culture media in bulk. Our reason for this has been clearly set forth for years on page 6 of our Physician's List. We have, therefore, introduced the "small drink" dose in individual, one-dose bottles.

THE BIG THREE

(ACTUAL SIZE)



"PINEAPPLE CULTURE, METCHNIKOFF." A two-ounce dose of Culture A in each bottle. Suitable for all cases of autointoxication, except Diabetes, or where fruit juices are counter-indicated. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.00.



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All the above products can be obtained at the leading druggists or will be delivered at patients' address without extra charge.

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225-7 SIXTH AVENUE, NEW YORK

March THE 192

AMERICAN PHYSICIAN

(REG. U. S. PAT. OFF.)

The Family Physician is the Health Factor of Most Fundamental Importan

Continuing the Quarter-Century of Distinctive Service of
The Medical Council

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Some Pediatric Don'ts

A Practical Survey of Every-Day Pediatric Problems (page 191)

A CLINICAL COMPARISON OF

Intravenous and Intramuscular Therapy (page 198)

SYMPTOMS WHICH LEAD TO A DIAGNOSIS

In Rectal Fistula

(page 201)

Complications Following Gastric Operation

Consider Possible Complications before Operation (page 195)

Full Contents on Page 176

$2.00 THE YEAR "Most Widely Circulated Medical Monthly" 50c THE CO

Atophan
TRADE MARK



Our Manufacturing Laboratories at Bloomfield, N. J.

Here's where genuine Atophan is manufactured by a special process completely precluding the possibility of unpleasant empyreumatic admixtures

This means a still further improved Atophan for your cases of Rheumatism, Gout, Neuralgia, Neuritis, Sciatica, Lumbago and "Retention" Headaches.

Ample trial quantity and literature from

Schering & Glatz, Inc.
150-152 Maiden Lane **New York**

AN IDEAL ARSENICAL

SODIUM DIARSENOL

SODIUM ARSPHENAMINE

Sodium Diarsenol marks a distinct advance in syphilology. It dissolves very quickly in water, giving a solution ready for immediate injection. No addition of sodium hydroxide is necessary. It has the therapeutic advantage of arsphenamine with the solubility and convenience of neoarsphenamine, and gives clinical results equal to or better than either of the two latter compounds. Neutralization with alkali being obviated, there is no undue handling and consequent decomposition of the highly reactive solution.

SODIUM DIARSENOL has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in "New and Non-official Remedies."

Manufactured by Diarsenol Laboratories, Inc., Buffalo, N. Y., under license from The Chemical Foundation, Inc., under patents 1059983 and 1078135.

Samples and Literature on request

DIARSENOL COMPANY, Inc.
BUFFALO **BOSTON** **ATLANTA**

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 240

MORE people die from pneumonia than any other disease.

Approximately 25 out of every 100 cases end fatally. Dr. Gustav Goldman has demonstrated that at least twenty of these twenty-five deaths may be prevented by employing Bacterial Vaccines.

Why delay and chance a fatal termination?

Dr. Gustav Goldman's article appeared in American Medicine, March, 1921

Bacteriological Laboratories of
G. H. SHERMAN, M. D.
DETROIT, U. S. A.

Nervous debility, nervous exhaustion, and all asthenic affections of the nervous system, so prevalent to-day, will respond to treatment which will replenish the reduced mineral reserves of the system and supply the necessary phosphorus to restore degenerated nerve cells

FELLOWS' SYRUP OF THE HYPOPHOSPHITES,

"The Standard Tonic for over fifty years,"

contains the basic elements to ensure normal metabolism, together with the dynamic agents, quinine and strychnine, which make it a true stabilizer of shaken nerves

Samples and Literature sent upon request.

FELLOWS MEDICAL MANUFACTURING CO., Inc.
26 Christopher Street **New York, N. Y.**

SYR. HYPOPHOS. FELLOWS' COMPOUND SYRUP OF HYPOPHOSPHITES COMP. FELLOWS

Vol. 27, No. 3, Published monthly—The Taylors; C. C. Taylor, Publisher; Mrs. J. J. Taylor, Ed. Mgr. Entered as second-class matter Feb. 13, 1896, at the post office at Philadelphia, Pa., under Act of March 3, 1879. The American Physician, "Most Widely Circulated Medical Monthly," continuing the quarter century of distinctive service of
MEDICAL COUNCIL
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BUTYN

Reg. U. S. Pat. Off

Butyn (pronounced Bute-in, with the accent on the first syllable) is a very powerful, synthetic, local anesthetic especially intended to replace cocaine for anesthetizing mucous surfaces.

This new product is structurally related to both Cocaine and Procaine, but extended clinical tests have shown BUTYN to be superior to cocaine in practically every respect.

The following extract is quoted from the Special Report of the Committee on local anesthesia of the section on Ophthalmology of the American Medical Association, which appeared in the J. A. M. A. on February 4th, concerning the clinical use of BUTYN:

"The results of the clinical and experimental use of BUTYN seem to justify the committee in arriving at the following conclusions:

"1. It is more powerful than cocain, a smaller quantity being required.

"2. It acts more rapidly than cocain.

"3. Its action is more prolonged than that of cocain.

"4. According to our experience to date, BUTYN in the quantity required, is less toxic than cocain.

"5. It produces no drying effect on tissues.

"6. It produces no change in the size of the pupil.

"7. It has no ischemic effect and therefore causes no shrinking of tissues.

"8. It can be boiled without impairing its anesthetic efficiency."

In addition to these advantages over cocain, BUTYN Requires No Narcotic Blank in Ordering.

It is antiseptic and its solutions keep well.

BUTYN has been used with success in removing superficially and deeply embedded foreign bodies in the cornea; for minor and major operations on the eye and for certain types of operative work on the nose and throat. It has also been used with excellent results in the extraction of teeth.

Reprints reporting the clinical work done by the Committee may be obtained by writing to The Abbott Laboratories, Chicago.

Forms and Prices

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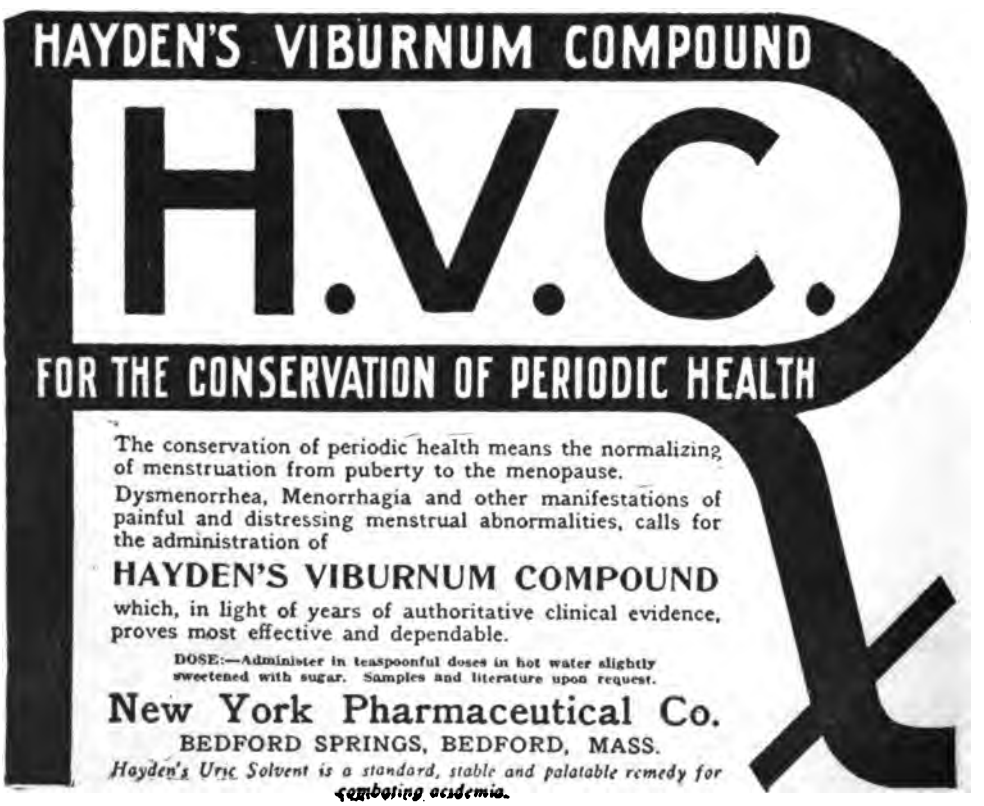


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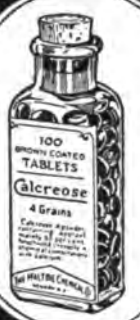


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The Allen Starvation Treatment of Diabetes

TO BE EXPECTED BECAUSE SO MANY PHYSICIANS ARE INCLINED TO OUT-ALLEN ALLEN

FOR SOME TIME we have been looking for a reaction against the so-called "starvation treatment" of diabetes introduced by Dr. F. M. Allen, of the Rockefeller Institute Hospital, and this largely because many physicians are inclined to out-Allen Allen, carrying the treatment too far. For it must be noted that Hill and Cabot, in the Massachusetts General Hospital, who helped to place this treatment on a clinical basis, keep the patient, for forty-eight hours after admission, on ordinary diet in order to determine the percentage of sugar in the urine and to prepare the patient; then the patient is starved, except for whiskey, coffee and water, until he is sugar-free, which is never over four days and commonly only two days, when the patient is allowed a diet containing about 15 grams of carbohydrate, which amount is gradually increased to the limit of tolerance—usually 50 grams of proteid, 50 of carbohydrate and 200 of fat, or 1800 to 2000 calories. This amounts in a day to about the following: 3 slices of bacon, 1 egg, 4 slices of parsnip, 12 heaping tablespoonfuls of 5% vegetables (thrice boiled), a small slice of chicken, 6 slices of salt pork, 4 squares of butter, 6 ounces of cream, coffee or tea without sugar. It is seen that both proteid and carbohydrate intake is restricted, while considerable fat is allowed.

This treatment is entirely practicable in a hospital, but in private practice it takes considerable attention to be given by the physician, really almost daily attention, with constantly followed-up laboratory findings and weighing every scrap of food, which must be especially prepared.

Our Own Experience

We have seen very marked benefit from this treatment in competent hands; then the patient is returned to the care of his physician, and commonly has to go to work, when 2000 calories a day will not sustain him. The physician is "up against it" in the case, runs the calories too high, usually from allowing too much meat, and finally the patient experiences an intolerable appetite for carbohydrates and, yielding, rapidly slips back. Then another physician is consulted who starts starvation treatment again and usually prolongs the treatment far beyond four days, acetonuria and coma supervene, and sometimes the patient dies prematurely. In our own experience, 50 grams of carbohydrate will not for long sustain a patient; hence we allow a little fruit and one slice of toast a day, at the same time administering a little codeine when necessary. This may not be according to the modern idea, but the patient does well and may live and work for years. Sometimes a little pure grape sugar is allowed, or even some levulose, but, heretical as it may sound, we believe that a little fruit sugar (levulose) in the form of a very little cured fruits, or, preferably, fresh fruits, rarely hurts a well-managed case of diabetes when sugar hunger becomes urgent. Understand, very little and not over once a day. It is remarkable how a little fruit will satisfy a patient. Apples contain 14% of carbohydrates and must be used with care, but peaches have only 9%, strawberries 7%, and melons 7 to 9%. Cured fruits, such as figs, prunes and raisins, contain about 75% in the dry state, but when cooked without any sugar, may, in the absence of fresh fruit, be allowed in very small amount, say, three prunes for breakfast. Bananas are too starchy to be allowed at all.

After starvation has accomplished its purpose, and the patient has attained a fair sugar balance and is at work again, this latitude, we believe, is perfectly allowable and even advisable. At all events, our patients do well on it, and we do not believe that natural fruit sugars are nearly so deleterious in diabetes as is cane sugar.

The Ideas of Stern

Heinrich Stern, M.D., LL.D., has recently written a book entitled "Fasting and Undernutrition in the Treatment of Diabetes," in which he takes sharp issue with Allen, perhaps going a little too far in the other direction, but Stern is an able and experienced man

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 240

and his ideas are entitled to respect. He does not approve of starvation at all, but does believe in fasting when indicated, as in advanced and severe forms of diabetes, though in the majority of cases he adheres to the older methods of dieting. Stern has created a bit of a sensation, but hosts of physicians will agree with him. Allen would almost make a specialty of treating diabetes, taking the cases out of the hands of the general practitioner, thought he does not openly so declare.

The Blood Sugar

Henry J. John, M.D. (*J. A. M. A.*, January 14, 1922), reports a case of starvation treatment which did not remove the sugar from the urine, although the patient was reduced to a mere framework. In this case he found blood sugar normal, and it remained so after full carbohydrate diet was allowed for some time. He contends that there are cases of ready permeability of the kidney to sugar, which constantly appears in the urine, and yet the patient does *not* have diabetes. He has raised a very valid point. Read his article.

There is quite a reaction against the starvation treatment of diabetes, but we fear that some antitendencies, including this one, may go too far. Allen has done good work, and we are inclined to the view that it has permanent value. The trouble has been that some physicians have made a fad of starvation and carried it too far.—T. S. B.

Quinidine Sulphate and Auricular Fibrillation

QUINIDINE TREATMENT SOMEWHAT OVERRATED

QUININE is $C_{20}H_{24}O_2N_2+3H_2O$, while quinidine is the same thing minus the three molecules of water; it is isomeric with quinine, differing from it in that it crystallizes in prisms and turns the plane of polarization to the right; yet the sulphate of quinidine has recently been credited with an action very different from that of quinine sulphate, as formerly understood. In view of the chemical composition of the two alkaloids we fail to see wherein quinidine should differ in action from quinine. These remarks will serve to take away the mystery from some recent discussion in the journals.

Quinine has been empirically used in the treatment of certain cardiac conditions for many years, and in 1914 Wenckebach recommended it as useful in restoring the normal rhythm in paroxysms of auricular fibrillation, which is a condition marked by an irregularly irregular pulse. Frey, of Germany, and Levy, of the United States, later investigated these claims, verifying the action in one-half of the cases treated, using from 2 to 4 grains at a dose, quinidine being supposedly preferable to quinine, in each case the sulphate being employed and given by mouth three times a day. Drury and Iliescue, of England, reported similar findings, believing that the action is upon the auricle alone, reducing the rate at which it beats through a slowing of conduction of the never-ending wave that is supposed to encircle the auricle in fibrillation.

Some Warnings

Lewis and Drury, of England, warn against the indiscriminate use of this remedy, since there is often a rise in the ventricular rate during treatment and depression of the vagi in some cases.

Mackenzie, a noted specialist in cardiac affections, expresses himself very conservatively, for he fears that the small clots that sometimes form in the fibrillating auricle may be detached and enter the circulation if by action of quinidine the auricle resumes its normal contraction too quickly, as it is not so apt to do under digitalis, though it sometimes happens. Furthermore, he discounts the danger of auricular fibrillation in and of itself; it is the effect upon the ventricle that he fears. On the whole, he prefers digitalis, using quinidine only when digitalis fails in slowing the ventricle.

Some Sensible Observations

Samways put the whole matter very sensibly when he said, in *The British Medical Journal*, October 22, 1921, "When a horse falls under a heavy load, and begins to struggle to regain its feet, the usual treatment is to sit on its head, or otherwise hold it down, to prevent its damaging itself. This treatment does nothing towards pulling the cart. In the same way the treatment of auricular fibrillation or flutter, *per se*, probably does nothing toward recovery from cardiac breakdown, though it may be very useful in preventing the auricle embarrassing the ventricle." Samways might have added that while the horse's head is held down the harness is removed, and that, sixty years ago, the patient with auricular fibrillation would have been bled to reduce the load. Sometimes we ought to bleed the patient today in such conditions, espe-

cially when the auricle is dilated, manifested by fibrillation.

Doctor, don't count too much on quinidine sulphate curing your heart cases, for if the auricle is dilated, which is the *real* lesion back of serious fibrillation, neither quinidine nor digitalis will remove that lesion. But the good old treatment of giving mere tonic doses of quinine in heart flutter ought to come in again, for quinine in two-grain doses will probably do all the *real* good in such conditions that the vaunted quinidine treatment will accomplish.

St. Louis and the A. M. A. Meeting

NEXT MAY the American Medical Association holds its annual session in St. Louis, and already hotel reservations are being made. An active local committee of arrangements is making every effort to make the meeting a success and to secure a full attendance. The principal hotels are as follows: *American,* Beers, Brevort, Cabanne, *Claridge,* Hamilton, JEFFERSON, *Leclede, Majestic, Marion Roe,* MARQUETTE, *Maryland,* PLANTERS, *Plaza,* Roselle, St. Francis, STATLER, Stratford, Terminal, *Warwick* and Westgate. Ones having 400 rooms and over are printed in small capitals; those having from 200 to 350 rooms are set in italics, and the smaller ones in ordinary type. The American has an annex with 225 rooms. The usual rates prevail. The meeting is from May 22 to 26, but there is an advantage in securing a room for the full week beginning May 21. Secure reservations from the hotels, and if not accommodated, write to Dr. Louis H. Behrens, 3525 Pine Street, St. Louis. The time to secure reservations is NOW.

The May session promises to be most interesting, and many subjects will come up that are agitating the profession. Doctor, if you are not satisfied with the present professional and economic position of the profession, instead of letting it ferment inside and getting yourself fussed up from an arm-chair point of view, go to the meeting and talk it over with the good fellows you will meet there; it will broaden you and help to a solution. Needless to say, the sessions will be most instructive and helpful, and many questions of A. M. A. policy will be worked over. We hope they will be constructively solved. The very worst way to meet them and thus to induce confusion and trouble in the profession is to stay at home and fume over these problems. So go to the meeting, have your say, hear the other fellow, and you will come home the gainer in every way.

A Real Man Among Men



His work will live after him.

Dr. Joseph MacDonald, 1870-1922

Managing Editor and Publisher. The American Journal of Surgery

Only those who knew Dr. Joseph MacDonald will realize just how much he will be missed by his friends.

Death is the everyday experience of mankind. As we grow older we become conscious that here and there friends are dropping from the ranks. Others step into their place and the eternal plan goes on. We know that sometime we in our turn will drop out, but the eternal plan goes on.

The great thing of it all is to live so when our turn comes to drop from the ranks we may leave behind —good work well done—a remembrance in the minds of those who knew us that will make it perhaps a little easier for them to live and work, so in turn they will leave behind, good work well done, a good fight well fought, a worth-while life well lived.

Full all of this Dr. MacDonald leaves behind him. While the sorrow is sharp in my heart that I will never see him again, never hear his cheery "MacDonald" laugh, never feel his hearty handclasp again, there is also in my heart a certain cry of victory for him—"Well done, 'Joe' MacDonald."

When the going is hard, when the temptation to slow up is strong, to give way to pessimistic foreboding, to lag in indecision instead of going forward

with confident courage, I know if then the thought of MacDonald comes into my mind it will be just a little easier to "hit the line hard without flinching or fouling." I venture to say this will be true of a great many men who knew Dr. MacDonald. When we leave such a remembrance we have not lived in vain.

Dr. MacDonald's death might be said to be the result of his very virtues, always extremely energetic and the hardest kind of hard worker in anything to which he gave himself, the arterial hypertension from which he died was largely a sacrifice to his overzeal.

But just what does it matter whether a man's span is fifty years or seventy years or eighty years. It is a man's quality and achievement that count. Better to use up than rust out. Far better to live fifty years as MacDonald lived them than to live eighty years that mean nothing.

Dr. MacDonald died suddenly in his office January 7th of cerebral hemorrhage. He had suffered a cerebral hemorrhage in 1919, causing a hemiplegia. His splendid fight these past two years in recovering his old-time energy and fitness is an inspiration to those who know of it.

He was born in Branchville, Sussex County, New Jersey, in 1870. Through sheer hard work and untiring energy he rose from office boy to manager in the office of the *International Journal of Surgery*, at the same time securing his medical education. In 1905 he established the Surgery Publishing Company and the *American Journal of Surgery* (formerly *American Journal of Surgery and Gynecology*). Dr. Walter M. Brickner, a New York surgeon, has been associated with him from the outset as editor-in-chief. The journal early acquired well-merited esteem through the high standard of literary critique it has maintained.

It will be a most fitting monument to his memory. It is often true that the larger success of a man's work comes after his death on the foundations he has builded. MacDonald was the type of man whose work lives after him and continues to grow.

He was co-publisher with Dr. Sol. Martin, of St. Louis, of *Medical Pickwick*, a most entertaining, unique monthly magazine of medical wit, humor, verse, history and biography. He was an ex-president of the American Medical Editors' Association and for many years as secretary invaluable to its success. An officer in the Medical Reserve Corp after our entrance into the war, he was given the rank of Major. He rendered valuable service, first in stimulating physicians through the country to enter the military service by vigorous propaganda in his own and member journals of the American Medical Editors' Association, and later as chairman of the New Jersey Army Medical Examining Board and then as a member of the General Medical Board at Washington. He was very active in Masonry, a Past Grand Commander of Knights Templar of New Jersey.

He is survived by a widow and a sister, Mrs. W. C. McKeeby, wife of Dr. McKeeby, of Syracuse, New York.

Quite apart from the important positions he filled and the signal success of his work, the spirit of Dr. MacDonald will linger in the hearts of his friends for the man he was. Anyone who knew the host of those friends, knew the kind of men to whom he appealed, knew what he meant to them, would need to know nothing more to understand the rare quality of "Joe" MacDonald, as he was affectionately called by so many.

He was above all else—a real man among men.

C. C. TAYLOR.

COMING IN NEXT ISSUE

Prognosis and Choice of Operations in Cancer of the Stomach, by A. Wiese Hammer, M.D.

Cancer of the stomach means death. A very early operation—seldom possible because the condition is usually discovered when it is well developed—offers a dubious chance for a radical cure, but operation at any time often prolongs life and mitigates suffering. The various phases of the question involved, the medical and surgical aspects of this all-vital problem are deftly and comprehensively discussed by Dr. Hammer in this scientific but practical paper.

The Acute Abdomen—The Medical Version, by Samuel Floersheim, M.D.

An acute abdomen has sent many a patient to the grave. An acute abdomen requires immediate attention. You have no time to study an acute abdomen—you cannot wait, you most act. To know what to expect, what to anticipate, what to look for when called upon to treat this condition, read Dr. Floersheim's paper, which aptly reviews this vital subject.

Is Cancer of Parasitic Origin? The Arguments, Pro and Con, by Albert Schneider, M.D.

The etiology of cancer is still unsettled, its ravages are still raging, while some minds still cling to the parasitic theory of the origin of malignant growths. Just as every man is entitled to his opinion, so is every physician entitled to the light shed by such opinion. The paper of Dr. Schneider has aptly presented the pros and cons on the subject under consideration. Read it and draw your own conclusions.

Habits Which Lead to Constipation, by A. W. Herr, M.D.

Ever since the human quadruped became a biped, constipation became a product and a problem of civilization. Whether this abnormality is due to the superimposition upon one another of the body viscera, "originally" intended to be hanging freely from the posterior aspect of the body, as we believe, or is due to the several factors enumerated in this splendid and instructive paper, or both, is a question worthy of the physician's consideration. At any rate, Dr. Herr presents a delightful paper, which we are sure you will enjoy.

Acidum Acetyl Salicylicum—Acetyl Salicylic Acid. Trade Mark Name—Aspirin, by A. D. Heinemann, M.D.

Acetyl salicylic acid, aspirin, is the universally abused drug. Of this the layman is woefully guilty, though the physician as well contributes his share to the promiscuity with which this drug—excellent in its place—is so carelessly employed. A drug of such extensive utilization is certainly worth knowing, hence Dr. Heinemann's paper, we are confident, will be widely read. Do not miss it.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Some Pediatric Don'ts

A Practical Survey of Every-Day Pediatric Problems *

DON'TS THAT WILL HELP THE GENERAL PRACTITIONER BOTH IN DIAGNOSIS AND TREATMENT

By H. Brooker Mills, M.D., F.A.C.P.
1734 Spruce St., Philadelphia, Pa.

Professor of Pediatrics, Medical Department, Temple University; Pediatrist to the Samaritan and Garretson Hospitals, and Consulting Pediatrist to the Hebrew Sheltering Home and Day Nursery.

From his wide experience, the author gives practical points which will help the physician both in diagnosis and treatment, with his small patients; interestingly written in the shape of brief, pertinent reminders, on the more frequently met pediatric problems.—Editors.

Chicken-Pox and Herpes Zoster

DO NOT forget that these two conditions, according to a recent author, Kraus, are believed to be due to one and the same germ, entering the system in each case by way of the nose and throat, and, in the one case, going direct to the central nervous system, resulting in herpes zoster, and, in the other case, entering the circulation and going to the surface direct, resulting in chicken-pox.

Physical Examination of Infants

In making an examination of an infant, do not forget the thinness of the chest walls; the presence of the thymus gland; the fact that the second pulmonic sound is normally accentuated; the advisability of examining the ears, nose and throat last, because the crying that will result will prevent further examination, and the advantage of turning the child face downward over the examiner's hand to make an abdominal examination.

Obscure Causes of High Temperature in Children

Where no apparent cause exists for a continued high temperature, remember it is often due to one of four conditions, (1)otitis media, (2) mastoiditis, (3) pyelitis, or (4) the unstable equilibrium of the child's nervous system. I would remind you that the otitis media may be present without pain, and that it is claimed 90 per cent. of the cases of otitis media are influenzal in origin.

Cervical Adenitis

It is well to bear in mind that this condition is so frequently the result of diseased tonsils and decayed teeth, and that a cure cannot be effected until these two conditions have been removed, if present.

Lobar Pneumonia

So many cases of lobar pneumonia have been diagnosed as, and have been operated upon for, appendicitis, that it is well to remind you of the fact that, during the first 24 hours of an attack of lobar pneumonia in the child, the symptoms are largely abdominal; in fact, there are so many of the symptoms of lobar pneumonia and appendicitis present during this time, e. g., the sudden onset with high temperature, the abdominal pain and distention, the vomiting, the leucocytosis, the rapid pulse, etc., that there is really only one symptom on which the differential diagnosis can at least provisionally be made, and that is the greater increase in the respiratory rate in lobar pneumonia. The chest symptoms in this disease often do not materialize until 24 hours after the onset of the illness.

I would also remind you that death in this condition is a cardiac death, and not a pulmonary one, and therefore you should be guided accordingly in the class of stimulants employed.

Delayed Talking in a Child

Before deciding that a child's lateness in talking is probably due to mental deficiency, make sure that it is not tongue-tied, and that its hearing is normal.

The Uses of Orange Juice

A recent author, Gerstenberger, claims to have proven that instead of orange juice tending to loosen the bowels, it acts rather in the opposite direction; that its action is really that of a diuretic, and, by

* Read before the Associated Physicians of Hazleton, November 14th, 1921.

acting on the kidneys, thus increasing the flow of urine, the fluid contents of the intestinal canal are diminished, thus tending toward rather a diminution than an increase in bowel action.

Excoriated Buttocks

An interesting contribution on this subject by Brennemann recently showed that, not only this condition, but also an actual inflammation, even ulceration, of the head of the penis, frequently resulted from an ammoniacal diaper, which was not remedied until the mother was instructed to boil every diaper removed from the baby, never mind even if it be only slightly dampened by urine.

Another interesting article on this subject recently appeared, in which the author (Cooke) claims that he has isolated from the stools of these patients a gram-positive bacillus which he calls Bacillus Ammoniagenes. He states it is a saprophyte, and has the property of fermenting urea with the production of ammonia.

He shows that the growth of this organism is inhibited in acid medium, but is abundant in neutral or alkaline medium, and suggests the following directions for the use of the three antiseptics that he has found to produce the best results in relieving the trouble:—

Mercuric chlorid (1:5,000).—Dissolve one 7½ grains tablet in two quarts of water and use this solution for the final rinsing of the diapers. Wring thoroughly and dry.

Boracic acid (1:20).—Dissolve one heaping teaspoonful in six ounces of water by warming. Pour this over a dry napkin, wring thoroughly, and allow to dry.

Mercuric iodid (1:5,000).—An aqueous solution of 5 per cent. each of mercuric iodid and potassium iodid is prescribed. One teaspoonful is to be added to a quart of water and used for the final rinsing of the diapers.

Diphtheria

Do not forget the proven value of the Shick test, which consists of the intra-cutaneous injection of toxin-antitoxin, or undiluted diphtheria toxin in the dose of 1/50th of the minimum lethal dose for a guinea-pig, a positive reaction indicating the need for diphtheria anti-toxin.

Tongue-Tie

Remember that the act of nursing is performed largely by the tongue and not by the lips, and, therefore, an examination for the existence of tongue-tie should be the first thing done in the case of difficult nursing.

Blood Examinations

Before rendering a decision as to the meaning of a differential leucocyte count, bear in mind that, at the age of 8 years, a child's blood is said to assume adult characteristics, in other words, previous to this age the polymorphonuclear leucocyte count is normally from 25 per cent. to 50 per cent. and the lymphocyte count is from 50 per cent. to 75 per cent., whereas, after this age, conditions are reversed, the polymorphonuclear leucocyte count being from 50 per cent. to 75 per cent., and the lymphocyte count from 25 per cent. to 30 per cent.

Diseased Adenoids, Tonsils and Decayed Teeth

Always have in mind the many infections that have been traced to one or both of these conditions, and have failed to respond to treatment until the causative factor was removed, among others cervical adenitis, pyelocystitis, appendicitis, tuberculosis, cardiac disease, etc.

Influenzal Pneumonia

Do not forget that the leucocytosis normally present in broncho-pneumonia and lobar pneumonia is absent in influenzal pneumonia, a leucopenia being the rule.

Tuberculin Tests

The failure of the von Pirquet and Moro tests, the two most commonly used in children, as the Calmette is considered too irritating for the delicate mucous membrane of the child's eye, to give a positive reaction should not be considered as final until the test has been repeated two or three times with several days intervening, and the dosage used increased each time.

It is also well to remember that the reaction is frequently negative in cases of pertussis and pneumonia.

Tuberculin Injections

This treatment has proven so valuable in children that it is well to have in mind at least one method (that of Miller) of its use that has been found satisfactory. Thus, starting with 1/1000th of a mg. of Koch's Old Tuberculin, then giving 1/900th of a mg., then 1/800th of a mg., etc., and so on, giving an injection at least once a week, and increasing to the amount desired to accomplish results.

Tabes Mesenterica

As you all know, the glands of the mesentery are not normally palpable, and, when they are, the diagnosis of tabes mesenterica is usually a safe one. Even then, as you all also know, these enlarged glands will not show on an X-ray plate unless some calcification is present, and, therefore, as the determination of the existence of this condition is frequently one of the first things possible in making a diagnosis of tuberculosis in a child, one should train themselves to be able to elicit its existence.

Enlargement of the Bronchial and Mediastinal Glands

As Eustace Smith, of London, claims that in 8 out of 10 cases showing this condition, tuberculosis is the cause, one should bear in mind the sign named after him, which is a venous hum caused by the compression of the left innominate vein between the

enlarged glands and the trachea, elicited by placing the stethescope at the supra-sternal notch.

Do not forget that the path from the intestinal tract to the thoracic duct and lungs is a direct one, so that tuberculosis of the bronchial glands or lung infection may be by way of the intestines, and in this way it may be explained why some of these cases are due to the bovine type, i. e., they are primarily intestinal infections, becoming thoracic secondarily. It is also important to remember that these intestinal infections are not only due to food, especially milk, but that they may also be due to infected material carried thru the mouth from dirty fingers, especially where the dirt is obtained from crawling on the floor.

Lancing of Gums

You may all have noticed how little, if any, relief you have obtained at times by lancing the gums for presumed difficult dentition, but perhaps it has not occurred to you the reason therefor. I believe this to be due to the fact that most of the pain is caused by the squeezing of the gum between the erupting teeth rather than to the soreness in the swollen gums over the points of the teeth, and, if this be so, of course the lancing does not reach the seat of the pain. Then, too, there is the risk of the gum re-forming over the points of the on-coming teeth, and, if this does occur, it will be more tough and fibrous than was the gum removed, thus increasing the difficulty the teeth would have in forcing themselves to the surface.

Undescended Testicle

Having seen a number of trusses being worn to hold up a supposed hernia, which proved to be an undescended testicle, I would remind you to always have in mind the not infrequent existence of this condition in children, as, not only may much harm be done by the application of a truss to an undescended testicle, but a large amount of valuable time may be lost in giving the proper treatment to a real hernia.

Epidemic Cerebro-Spinal Meningitis

I would remind you of the great diagnostic and therapeutic value of lumbar puncture in this condition, and also of the importance of McEwen's sign in determining the need for the puncture and for its repetition. McEwen's sign, as you know, consists of a tympanitic note obtained by percussion over the frontal and parietal lobes, preferably with the patient in the upright position with the head inclined to one side. The thinner the skull the greater the vibration, and the greater the fluid and intracranial tension the clearer, the percussion note. The sound produced may be well represented with the hands. If, for any reason, it be undesirable to sit the patient up, then the head should be turned to one side, and the percussing done on the lower side, i. e., the side nearer the bed. The sound is reduced in intensity after a lumbar puncture, and is, therefore, a guide for its repetition. As you, of course, know, it is due to an accumulation of fluid in the ventricles.

You may also have noticed that the spinal fluid in some of these cases is of a yellowish color, which condition is called xanthochromia, and these cases, which are almost always fatal, are divided into two main groups: (1) those fluids that give a positive reaction for hæmoglobin, which probably causes the yellow color, and do not coagulate spontaneously; and (2) those that do not give a positive reaction for hæmoglobin, but do coagulate spontaneously. The yellow color in cases in Group I is due to dissolved hæmoglobin, or its derivatives, while the yellow color in cases in Group II is due to the fluid in the lower portion of the canal being shut off from communication with the fluid in the ventricles by an obstruction of the sub-arachnoid space, such as by a tumor, or adhesions following a previous inflammatory process, or a tubercle.

It is also well to bear in mind that cases have been observed where the first puncture yielded a clear fluid, whereas subsequent punctures revealed specimens of a decidedly purulent nature. This condition is explained in one of three ways: (1) that the inflammatory process has only just begun in the meninges, and therefore the cloudy fluid that will eventually result therefrom has not yet flowed down the spinal canal to the point of puncture; (2) as the choroid plexus is believed to be responsible for the secretion of the spinal fluid, it is possible that the drainage of the fluid from the sub-arachnoid space into the spinal canal is being temporarily blocked by the inflammatory exudate; or (3) the obstruction may be mechanical, the pressure from below being greater than that from above downward; in this case, the relief of the pressure from below by the first puncture will permit of the flow of fluid from above. One, therefore, is not justified in dismissing the diagnosis of cerebro-spinal meningitis, based on the appearance of a clear fluid at the first puncture.

I would suggest three rules be observed in administering the serum in these cases, in order to avoid the serum sickness and thermal reaction that sometimes follows:—

1. When large doses of intravenous or intraspinal serum are given the serum must be introduced *slowly*. At least ten minutes should be taken to run the serum into a vein. The slowness of intravenous administration is essential to the safety of the patient. As the larger the amount of fluid that is used the greater and easier is the control of the rapidity of the flow, the serum may be diluted with salt solution merely to increase the bulk.

2. The *temperature* of the serum should never be below the temperature of the circulation. Indeed, it is better that it should be slightly above that of the patient.

3. It is very important that the serum should be *clear,* and, if any sediment is present, to be sure to avoid its introduction.

The three points therefore, (1) rapid administration, (2) cold serum, and (3) cloudy serum, either singly or collectively, may be responsible for either of these unpleasant reactions. Should the serum sickness develop anyway, a 5 per cent. solution of phenol works well in affording relief.

The Use of Urotropin

As it is claimed this drug only acts in an acid media, it is wise to add acid sodium phosphate āā to the urotropin when using this drug.

The Use of Castor Oil

Because of the constipating after-effects of castor oil, it is usually considered wise to use it only in diarrhoea rather than in constipation.

Rickets and Breast-Feeding

Every once in a while you have probably encountered patients who persisted in keeping their infants at the breast far into the second year, and I would suggest you bear in mind that prolonged nursing is the most common cause of rickets in breast-fed babies, the reason being the deficiency of the milk in nutritive value.

Some points that it is important to remember in connection with breast-feeding are that there is said to be less milk in the breasts in the afternoon, i. e., after 3 p. m.; that the percentage of fat is highest in the middle of the day; that there is more sugar in the milk at the beginning of a nursing, and more fat at the end of a nursing; that the percentage of fat present varies all the way from 1 per cent. to 10 per cent.; that there is no relation between the stage of lactation and the amount of fat present; that the proteid per cent. varies but little during a nursing; that the greatest variation in the milk from the two breasts, taken at the same time, is in the fat, and that the great difference in the percentage present of the various ingredients of the milk from the two breasts makes it absolutely necessary, when testing the milk, to do so from each breast separately, and not mix the two together previous to examination.

Typhoid Fever

Because of the fact that the rose red spots so common in typhoid fever in the adult are only present in about 20 per cent. of the cases in children, it is well to bear in mind that their diagnostic value is only in that proportion.

Vomiting in Infancy

A recent author states that, where no reason can be found for persistent vomiting, in a certain number of cases atropine solution in the strength of 1/1000 is beneficial, especially in bottle-fed babies, one drop of this solution being added to every feeding for 48 hours, then two drops to every feeding for 48 hours, and so on, going as high as five drops or more, to each bottle, if necessary.

Hutchison's Teeth

The question is often asked as to whether or not this condition occurs in the first teeth, and I would remind you that, as these teeth have their beginning at the 17th or 18th week of intra-uterine life, the occurrence of syphilis at that early date in sufficiently severe form to affect the teeth would cause the death of the foetus; therefore, it is not likely that this condition occurs, but very rarely, if ever.

Kernig's Sign and Babinski's Phenomenon

Do not attach too much importance to these tests, partly because of their occurrence in so many forms of meningitis and cerebral lesions, and partly because they may be normally present, at least up to the age of 18 months.

I might also remind you that, whereas a positive adult Babinski consists merely of a dorsi-flexion of the great toe when the plantar surface of the foot is stroked with the finger, pediatric Babinski consists, in addition, of plantar flexion and separation of the remaining toes.

Itching in Contagious Diseases

I have found that the use of warm baths, followed by inunctions of cocoa-butter, without first drying the skin, to be a most agreeable, as well as beneficial, method of handling this troublesome condition, the heat of the body from the fever that is present and the moisture on the skin from the bath, causing a thin film of cocoa-butter to adhere to the skin.

A good method of preventing scratching is the use of "Hand-I-Hold" Mits.

Protection of the Eyes in Measles

You all know how important this is, and are also aware of the unpleasantness and discomfort that has frequently resulted to the nurse and the patient from the darkening of the room for this purpose, and I would suggest the placing of the patient in bed in such a way that the back of the head faces the window, instead of the child facing the window; in this way the curtain at that particular window may be raised all the way, and plenty of light allowed in the room, the only curtains to be drawn being those at the remaining windows, if there be any.

Complications Following Gastric Operation

POSSIBLE COMPLICATIONS MUST BE CONSIDERED BEFORE OPERATION

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To Know What to Tell the Patient

Complications and sequelae of gastric surgery are frequent and important. To know the probabilities and possibilities of the procedure under consideration is to know what to tell the suffering patient in quest of vital advice. This paper of Dr. Hammer is excellently presented and covers its ground admirably well. We hope our readers will benefit by it.—Editors.

THERE ARE MANY COMPLICATIONS—immediate and remote—following in the wake of gastric operations, and as death, too often in a large percentage of these cases, is recorded as a part of statistics, it becomes an instructive study to examine, with critical attention, the likelihood of a fatal termination following such operations as well as the complications and sequelæ that may lead to such a termination.

The causes of death after operation on the stomach include: Shock, peritonitis and pneumonia. There is also the possibility of the so-called "vicious circle," after gastrojejunostomy, and the possibility, in other instances, of peptic ulcer, internal hernia, gastric or duodenal fistula and subphrenic abscess.

All sorts of statistics are available, and at first view such data must appear as misleading and confusing. But the thoughts incorporated in this paper deal with the more recent advances in gastric surgery with improved technic and in the hands of the skilled operator. One factor that every student of statistics need reckon with is the effect upon the individual's health brought about by the original disease, rather than as the result of any operation.

Shock

When the patient, having been under watchful care before operation, is brought to the operating table properly protected, so as to avoid loss of bodily heat, the inference usually is that such an individual, if he become a victim of shock, does so through some fault of his surgeon. Shock, therefore, often results from a bungling in the operation such as a too prolonged procedure in the weak and sickly, operation upon some other part or organ in addition to the original operation and in not selecting the very best operation for the case under consideration. Hemorrhage may antedate shock. With dense adhesions and in the presence of certain malignant conditions, copious hemorrhage is at times hardly avoidable. But it is almost criminal for a surgeon to be taken unawares for lack of instruments or for the proper ones, when the patient lies exposed and time is lost in the selection and preparation of the paraphernalia necessary for the operation.

Peritonitis

Because of improvements in technic, this complication is quite exceptional, and is to be found mostly in ulcerations and perforations of the abdominal organs. Although the peritoneal infection is secondary to the lesion under consideration, it may become primary in importance. *Per contra,* we may encounter extremely mild perotonitic evidences in the most serious malignant lesions of the stomach and its adjacent viscera. The employment of the Murphy button and the occasional leakage resulting from anastomosis, has not infrequently led to peritonitis. Complicated technic, the perforation of gastric or duodenal ulcers, and prolonged and clumsy handling of the parts all contribute their share to the development of this complication.

Pneumonia

There is a variety of causes alleged to bring about pneumonia in operation upon the stomach. Many of these are problematic. Thus, local anesthesia is said to be more likely to produce pneumonia than when a general anesthetic is employed. This later statement is energetically defended by Mikulicz. Others are skeptical concerning the assertion.

The view entertained by Kelling finds favor with many of the best surgeons, namely, that these pneumonias are the direct result of inhalation or through diaphragmatic infection. Or, again, that the breathing, which is of a purely restricted costal type because of the seat of the operation, favors hypostatic congestion. Such interferences and accidents are antagonized in a large measure through the more modern post-operative treatment of stomachic operations, of having the patient assume the sitting posture in bed soon after the operation. The true explanation for the development of these pneumonias seems to lie in the recent pronouncement of Cutler and Hunt (1920), that mobility of the part and sepsis, favor the formation of emboli that are carried to the pulmonary tis-

sues through the blood stream and the lymphatic channels. The percentage of pneumonias following upon surgery of the stomach varies between 1 and 5 per cent.

Vicious Circle After Gastro-jejunostomy

All sorts of explanations and a variety of theories have been advanced to clarify a chain of post-operative symptoms as applied to persistent vomiting after this operation, and which was believed until about fifteen or sixteen years ago to be the expression of the escape of the stomachic contents through the pylorus and the regurgitation from the duodenum back into the stomach, by way of the afferent loop of the gastrointestinal anastomosis.

It is essentially caused by obstruction to the onward passage of the duodenal contents, due to much handling of the intestine resulting in a paretic condition or to the faulty use of clamps; it may likewise be caused by a kinking of the bowel at the point of anastomosis, or to some obstruction beyond the gastrojejunal opening.

The presence of bile or pancreatic fluid in the stomach cannot be held responsible for the persistent and pernicious vomiting; for as early as 1890 Dastre published an exhaustive study (Archiv. für Physiolog.) in which he absolutely exploded the erroneous theory. J. B. Deaver asserts, in speaking of gastrojejunostomy as quite the ideal treatment of gastric ulcer, especially the pyloric ulcer with pyloric obstruction, that

> "If the anastomosis is made in the pyloric portion, not in the body of the stomach, the anastomotic opening will functionate even where the pylorus is patulous; and even if the gastric contents do not leave the stomach by the new opening, but still are discharged by the pylorus, *the gastrojejunostomy aids in healing the ulcer by permitting admixture of bile and pancreatic juices with the stomach contents, thus diminishing hyperacidity.*"

Nor are the following factors at all convincing to account for the vicious circle: The presence of a loop on the proximal side of the opening into the stomach, which is disproved by the large number of anterior gastroenterostomies which necessarily must have such a loop; by the situation of the opening not being at a dependent part of the stomach, because what was not dependent before operation, becomes dependent after operation. Then, again, the stomach does not empty its contents by gravity but by contractions into the bowel. Also, so very many of the operations, not at the most dependent part have been so thoroughly successful.

The following are some other causes advanced to account for the development of a vicious circle:

Acute angulation of the jejunum beyond the anastomotic opening; avoided by one or two sutures beyond the opening.

Pouting valves of the mucous membrane; avoided by proper application of the marginal suture, securing apposition of the intestinal to the gastric mucous membrane.

Compression of the colon, as asserted by Doyen, by the jejunal loop in the anterior operation.

Mayo Robson, in speaking of the vicious circle as a sequel to gastrojejunostomy, reports that in one of his cases adhesions formed subsequent to the operation leading to constriction of the distal arm of jejunum, upon which he performed a subsequent operation six months later, and cured the condition by the division of a band crossing the distal jejunal loop.

The profession seems well in accord with Robson's conclusion: "That the causes of vicious circle are avoidable and the complication should, therefore, seldom if ever occur and, in fact, since recognizing the cause in 1901, "I have never seen," he says, "a case of regurgitant vomiting."

Peptic Ulcer of the Jejunum

Peptic ulcer of the jejunum is an extremely interesting one and has given rise to much speculation and to many theories. It would be impossible in a brief space even to attempt to name the conditions that would predispose to this complication, although the dictum of Robson that the condition is in all likelihood an expression of a mild form of sepsis leading to gastritis and an excess of free hydrochloric acid in the gastric juice, is believed by many very excellent surgeons. The Mayos blame this complication upon faulty technic. Deaver is of the opinion that as the stomach is diseased, and whatever be the real cause of the ulcer, it cannot be absolutely and completely eradicated by the operation alone and that the development of an ulcer at the site of the anastomosis or in the vicinity may be regarded as a manifestation of the underlying disease.

Internal Hernia After Gastro-jejunostomy

Internal hernia after gastrojejunostomy is of rare occurrence. Deaver observes the reports of ten cases of different operators, and notes that in four of these instances the complication occurred after a posterior short-loop or no-loop operation. It occurred in two instances after anterior gastrojejunostomy and in two after a posterior long-loop operation; in one case the nature of the gastrojejunostomy is not described. He asserts that even without an actual hernia, the long loop has been responsible for death in a small number of cases by producing obstruction through volvulus of the anastomosed loop, or by drawing the mesentery so taut as to strangle the lower bowel beneath it.

In 1902, W. J. Mayo reported the passage of the small intestine through the loop formed above the junction of the jejunum and the stomach. This condition is only likely to occur after the anterior operation, and its occurrence was the signal for operation one year following the primary operation, i. e., anterior gastroenterostomy.

Later, Moynihan reported such a case of internal hernia, the patient dying on the tenth day following operation, the result of acute intestinal obstruction; when a part of the small intestine was found in the lesser peritoneal cavity. But, at best, this complication is of infrequent occurrence.

Gastric and Duodenal Fistulæ

These are serious complications that may follow in the wake of operations upon the stomach. Peptic ulcer of the jejunum as a sequel to the operation of gastrojejunostomy (*vide supra*), has been sufficiently referred to in this paper. It is interesting, however, to note that Leiblein has critically studied seventy-nine cases of jejunal ulcer, and announces in twenty-four cases perforation into the peritoneal cavity, while the remaining fifty-five ran a chronic course.

In thirteen instances an internal fistula resulted; in ten cases, a jejuno-colic fistula; in one, a gastro-colic fistula; and in two, jejuno-gastro-colic fistulæ. In 1905 Kauffman reported the occurrence of a gastro-jejuno-colic fistula, following the operation of posterior gastro-entero-anastomosis, done four years previously.

Subphrenic Abscess

The subject embraced under this caption is a large and important one, but it is only necessary to point out in this brief exposition, that this complication after operations upon the stomach may arise from a variety of ulcers—gastric, duodenal or jejunal, many of such ulcers resulting after operations upon the stomach; the condition is also, at times, liable to arise from gastric or duodenal fistulæ, already sufficiently dwelt upon.

In order to offer a clear classification, the above complications are those embraced in the prefatory words to this paper. But there remain three other complications that at times may appear and are subjoined in order to make the epitome complete.

Perforation

The first of these is perforation, owing to a want of union at the point of anastomosis. This is an extremely grave complication and in the cases reported has always resulted fatally. It occurred in all these cases where the Murphy button was used. In none of these cases was union by suture. Robson has reported one of these cases; W. J. Mayo two such cases, and the late J. B. Murphy, one instance. In one of the two cases reported by Mayo, the accident followed an epileptic seizure on the ninth day; in the other on the seventh day after gastroenterostomy for malignancy of the pylorus.

Whether due to faulty technic or some error in asepsis, the occurrence of adhesions subsequent to gastroenterostomy may at times appear as a complication, although it is the consensus of opinion that perigastritis or adhesive peritonitis, at a distance from the site of operation, while rarely encountered, must have its explanation in the employment of antiseptics too powerful and at the same time too irritating. Adhesions, the result of cancer, and ulcer are quite common and Mayo Robson found these so extensive in one case that it was almost impossible to locate any healthy portion of the stomach to which the jejunum might be applied.

Death From Asthenia

Death from asthenia although still encountered, is to be regarded rather as a surgical rarity after operations upon the stomach. Twenty-five or thirty years ago it was considered a part of treatment for the patient to abstain from food by the mouth, in other words, major surgical operation upon the stomach was the signal for starvation. Today asthenic deaths in these classes of cases is the exception, for, with the administration of liquid and semi-liquid nourishment, and this supplemented by nutrient enemata, these dangers are greatly minimized.

Other Possibilities

Of course, in any of the large series of statistical tables at one's command, he is likely to find that death supervened in many cases of gastric operation from uremia, anemia, myocarditis, cerebral embolism, etc. But these complications arise in one with these complaints already existing to some degree, and are merely aggravated or brought to a fatal issue through the gravity of the operation that has been performed. But they can in no way be considered as complications or sequelæ of gastric operations, or is their development at all probable as post-operative events. For this reason, mention of all such causes of death have been studiously avoided as being irrelevant to the subject.

Treatment of Tuberculosis by Nasal Insufflation Method

J. P. Israel, Houston, Tex. (*N. Y. Med. Jour.*, January 4, 1922), says:

1. It is of the utmost importance that all anomalies of the nose be corrected so that nasal respiration may be correctly established as soon as possible.
2. The insufflation method in the use of tuberculin is of great advantage in the treatment of tuberculosis and can easily be given by any physician.
3. In most cases uniform results are produced. It can be employed in hospital or office alike. The period of treatment should extend over six to eight weeks at least, and where tuberculins are to be used over a long period, it is the ideal method, as it is not painful and causes very little discomfort to the patient, and the results are the same as the subcutaneous method.

In my opinion it is the method *par excellence* for the treatment of ocular tuberculosis.

A Clinical Comparison of Intravenous and Intramuscular Therapy, Using Iron and Arsenic

CERTAIN DEFINITE RESULTS MAY BE EXPECTED WHEN INJECTED DIRECTLY INTO THE CIRCULATION

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THE THERAPEUTIC advantages of intravenous medication are that certain definite results may be expected from the dose given. As the drug enters directly into the circulation, it is not liable to the change or decomposition it undergoes if given by mouth or intramuscularly. Physiologic results are often obtained much more quickly. Particularly is this true in anemias and many types of malnutrition. When the whole system is surcharged with the poisons of these low-grade diseased conditions the absorption of food is greatly impaired. Many medicines when given *per os* are changed before the final absorption and cannot, therefore, have the same effect as when administered hypodermically. The place of injection is important. It has been shown that absorption from intramuscular injection is faster than from subcutaneous, and often injection directly into the circulation is the most prompt, and therefore the method of choice.

The use of some form of iron and arsenic, alone or combined, has for many years been the practice in the treatment of anemia. Although improvement and even cures have been reported when the preparation was given by mouth, digestive disturbances of varying degree were almost always accompanying phenomena. Moreover, improvement could not be predicted with any assurance. The comparative results of intramuscular with oral administration of iron alone, or iron and arsenic preparations, show the intramuscular method to be much more certain; but, irritation may result if the preparation is too concentrated.

Intramuscular injections of iron have been given by Italian physicians for some years.[1] In this country intramuscular injections of arsenic and iron have been used with good results in severe anemias and pulmonary tuberculosis; but the use of iron and arsenic together has been neglected. In an attempt to duplicate as nearly as possible the work of the Italians, many physicians here used the preparation which has been standardized in Italy. With this solution sixty to eighty intramuscular injections were required to effect a cure. The number is determined by the reaction of the patient. Moreover, it has been found[1] that unfavorable symptoms are mitigated by alternating the injections, toward the end of the course, with administration *per os* of arsenico-ferruginous preparations with nux vomica, strychnine and other drugs. If these are continued for some time after injections the therapeutic effect is better and more lasting.

Some Research

It has also been noticed by careful investigation that under the stimulus of the intramuscularly injected Italian solution the hemopoietic organs produce red blood cells which are immature and do not last, hence there are many recurrences.

In 1907, Dawes and Jackson[2] reported the results of several years' experimentation and intramuscular treatment with sodium cacodylate. The reason for using this form of arsenic was that the sodium held the inorganic arsenic in such a stable combination that only a partial decomposition could be affected, thus avoiding the toxic symptoms reported by others. Hence large doses and long continued treatment were necessary. The dose consisted of about 0.1 gm. of the salt dissolved in a syringeful of boiling water, injected through a long needle deep into the gluteal muscle. A course of ten daily treatments was followed by a similar interval of non-treatment. There was always an increase in the hemoglobin but usually only a small increase in the red blood cell count. Thirty injections extending over a two months' period cured eight patients with simple anemia.

Of the three cases of splenic anemia, one died after a period of temporary improvement; the other two were cured by 0.15 gm. doses after five ten-day courses with ten-day intervals (100 days).

Of Dawes' forty-five cases treated intramuscularly with sodium cacodylate, thirty-four patients were either entirely cured or much benefited, eleven showed no change and two were made worse. The results were not recorded in a form which can be incorporated in Table I of this paper but comparison of the final results shows the limitations of this treatment. The results were uncertain and the treatment was long (two or three months).

Although many other physicians in this country have obtained satisfactory cures of anemia by injecting some form of iron and arsenic intramuscularly, practically without exception they report that pain is felt at the point of puncture for about twenty-four hours, and occasionally an abscess develops.

The induration may heal of itself or may require local treatment by massage and hot applications.

Since the introduction of the intravenous injection of these two drugs no such ill effects are encountered. The preparation is supplied directly to the blood, where the immediate need is, and the effect is prompt. The blood stream carries the solution through the body in a few seconds and the therapeutic function is accomplished before any extraneous tissue or digestive secretion has an opportunity to nullify its effect. It is entirely logical to expect better results from the more direct method.

I had for a number of years used the intramuscular method, but when I realized the possibilities of getting the solution into direct contact with the part most in need of it, I decided to make a study of the comparative value of the intramuscular and intravenous methods.

TABLE No. 1

Method	Preparation	*Hemoglobin* Before	*Hemoglobin* After	*Red Blood Count* Before	*Red Blood Count* After	Time	Results
Intramuscular	Iron, arsenic glycerophosphate†	65%	95%	3,160,000	5,010,000	108 days (3 times a week)	no irritating qualities
	Iron cacodylate‡	60%	90%	3,625,000	3,865,000	38 days (daily)	
	" "	37%	57%	2,220,000	2,220,000	35 days (daily)	no improvement after 13th injection
	(Italian soluble iron arsenate)§	40%	55%	3,248,000	4,888,000	60 days (daily with 4-5 day rest after 20th injection)	
	" " " "	30%	52%	3,500,000	4,350,000	2-3 months (daily with 4-5 day rest after 20th injection)	
Intravenous	5cc American iron cacodylate solution¶	58%	88%	3,700,000	5,400,000	30 days (6 injections)	no bad effects
"	" " "	60%	95%	3,500,000	4,500,000	30 days (6 injections)	" " "

TABLE No. 2—PRESENT SERIES

Method	Preparation	*Hemoglobin* Before	*Hemoglobin* After	*Red Blood Count* Before	*Red Blood Count* After	Time	Results
Intramuscular	1 cc. Italian solution iron arsenate	73%	80%	3,600,000	3,900,000	40 days (13 injections)	Occasional Toxic symptoms
	" " " "	73%	87%	3,600,000	4,650,000	3 months (30 injections)	" " "
Intravenous	5cc American solution of iron cacodylate	73.5%	88%	3,610,000	4,850,000	40 days (8 injections)	No toxic symptoms

The Author's Experience

For the most part my patients are of Italian birth. A series of cases covering a period of five years serves as the basis for the present conclusions.

The technic is practically the same in both methods except that for the intravenous injection the needle is directed into the median basilic or median cephalic vein at the bend of the elbow. Alcohol is used to sterilize the surface at the point of the puncture. Adjust the band, for taking blood pressure, firmly about the upper arm so that the vein stands out enough to allow the fingers of the left hand to grasp it. All instruments must be carefully and thoroughly sterilized. Draw the fluid into the barrel of an all-glass syringe, which is equipped with a twenty-three gauge hypodermic needle, and insert the needle parallel with the vein. As soon as dark blood appears in the syringe, one may be certain that the vein has been penetrated and care must be exercised to avoid going beyond into the muscular tissue. Release the pressure on the vein and inject the fluid slowly.

The solution used for the intravenous injection as 5 c.c. solution of iron and arsenic prepared according to a method approved by conservative authorities.[4] The iron in this solution is in a colloidal state and the amount used contains 64 mg. (1 grain) of iron cacodylate. The patients were treated every fifth day. For those receiving intramuscular treatment 1 c.c. containing 32 mg. (0.5 grain) of iron arsenate was used and the injection was repeated every third day.

During 1919, eighty patients were treated, representing secondary anemias, some post-operative, some post-febrile. Alternating these patients as they appeared for treatment, half were given intramuscular, and half intravenous injections. The red blood cell count and hemoglobin were taken at the beginning of treatment, at the end of forty days, and, in the case of the intramuscular series, at the end of three months.

Pain and an occasional abscess followed the intramuscular injection, but no untoward symptoms were

noted in the intravenous method. I have made over 2,000 intravenous injections with no sign of abscess formation and in no case was there any alarming reaction. Occasionally a needle-shy patient appeared, who showed some indications of fainting.

I found that I was able to obtain at the end of forty days with an average of eight intravenous injections results which required three to four months by the intramuscular method. The average figures are included in Table 1, showing the comparisons of the two methods. The results given in this table are typical records from the literature for intravenous and intramuscular therapy. Each entry indicates a case.

My figures (Table No. 2) are averages of eighty cases, forty each treated intravenously and intramuscularly.

My results show that one intramuscular injection raises the red blood count about 23,000, while each intravenous injection raises it about 100,000 to 150,000. The improvement in the hemoglobin is in the same relation.

Comparative Costs of the Two Methods

As it is the custom for physicians to charge more for an intravenous injection than for an intramuscular one, the patient is likely to prefer the latter. It is evident, however, that six to eight injections at five dollars, for example, is somewhat less expensive than thirty or more injections at a dollar and a half, the usual price charged. This economical aspect is very important to the patient. It is manifested in society by the increased efficiency of the laborer or housewife in a comparatively short time. We are now able to assure a patient who cannot afford to be ill that in five or six weeks his blood condition and consequently his general health will be as nearly normal as it would be in twice that length of time by the older method. At the same time the cost is less and the possibility of unpleasant accompanying symptoms is reduced to practically nil. The saving in time to the busy physician is, moreover, no mean consideration.

Be Sure of Your Solution

To insure positive results in this treatment one must not experiment with extemporaneous solutions. In attempts to avoid the unpleasant results of others, many physicians here and in Italy have devised solutions of widely varying formula. The results are just as diverse. Attempts at commercializing a few of these have met with indifferent success as they could not be depended upon. It is unfortunate that a method which is basically sound is in danger of acquiring a bad reputation because the solution used is unsuitable.

It is due to careful research and pharmaceutical work that standardized, animal tested solutions are now available. Our sontributions to intravenous therapy mean that the United States has advanced another step ahead of other countries. With the improvement of the solutions, as well as the mode of application, the full therapeutic value of old, well-known drugs is assured. The technic as outlined in recent literature is a safe and practical office procedure such as any careful practitioner can employ with safety.

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Infection Not Inflammation

T. J. Watkins (Chicago Med. Recorder, January, 1922) says disease produced by invasion of the body by pathogenic bacteria is infection and not inflammation, or "itis," and it should be so designated.

The terms "inflammation" and "itis" originated when the inflammatory reaction was considered the disease. The nomenclature should be changed to infection because infection is the disease and inflammation the result of the infection. Why continue to confuse cause and effect? Why continue to call inflammation a disease when we know that it is not essentially destructive, but protective?

Aside from right, the old terminology handicaps teaching and confuses in literature the relation of infection to inflammation.

For some time I have used the term infection instead of inflammation or "itis" in teaching gynecology to medical students and nurses and have been much gratified with the result. Infection has a definite meaning which is readily comprehended. Inflammation has an uncertain vague meaning as it is associated with some of the changes in organs such as nephritis, hepetitis, etc., which include a variety of causes. For example: infection of the fallopian tubes has a definite meaning. The term salpingitis confuses cause and effect, and salpingitis may include pathology not due to infection. Even in case of nephritis, it would be a delight to hear infection of the kidney discussed by itself. The discussion of any other variety of nephritis could be made under its own name, or considered under unknowns.

Why not be progressive, honest and frank and "play the game?"

Treatment of Tuberculosis

The most important factors in the management of the average case of tuberculosis may be summarized as follows:

1. The importance of an accurate diagnosis as affecting the prognosis and therefore the management of the case.

2. The value of frankness and truthfulness in gaining the patient's co-operation, which is indispensable if we are to help him back to health.

3. The blessing of rest, good food and fresh air and the danger of indiscreet exercise in treating tuberculosis, and

4. The far-reaching importance of reducing future tuberculosis by properly instructing each individual case in the simple measures of prevention.—J. J. Lloyd in *Southern Medical Journal.*

Rectal Fistula

Symptoms Which Lead to a Diagnosis

THOROUGH DIGITAL EXPLORATION IMPERATIVE TO DETERMINE STRICTURE, NEOPLASM OR OTHER PATHOLOGY

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Knowing Little of An Important Condition

The general practitioner knows little of rectal fistulae and usually "bothers with it" as much. That it is real, obstinate, and worthy of serious attention those who have suffered with it will tell you in no uncertain terms. Dr. Drueck's paper presents this rather neglected but important subject in clear, concise and practical form. He discusses all the phases of this disease in a way that the reader cannot help benefiting by it. Don't miss it.—EDITORS.

THE SYMPTOMS vary greatly with the extent and variety of the fistula. The first symptom which attracts the patient's attention is the local abscess, manifested by redness, swelling, pain and fever. The untreated abscess points either externally on the skin, internally into the rectum, or both ways. The abscess ruptures and discharges its contents, thereby relieving the local distention. The tissues are then soft and tend to retract and contract, leaving only sufficient opening to permit the exit of subsequent discharges, which may continue indefinitely. The character of the discharge suggests somewhat the age of the fistula. The excretions of a recent abscess are thick, abundant and constant, but as the lining membranes grow old and are covered with pale, grayish granulations, the discharges become thin, watery and less in amount. After the abscess has emptied itself the patient suffers no discomfort except the purulent discharge, which is always fetid and sometimes contains intestinal gas and feces which make it difficult to keep the parts clean. As the retained pus burrows, forming new abscesses and sinuses, the discharge gradually increases. When the discharge of a given sinus is small in amount and irregular in outflow the opening tends to become occluded and retention occurs. Thus a new abscess is produced which ruptures through the old sinus or forms a new outlet. In this way two or more fistulae often connect with a common abscess. In any case, if the discharge ceases or becomes irregular always suspect a new abscess.

The patient may sometimes help in establishing a diagnosis of fistula if he reports having had repeated "boils" or pimples on the skin near the anus. Where we meet this history the search for a fistulous opening should be very persistent and thorough. A history of pruritis and much moisture should also be sufficient reason for a careful examination, for, while it may not always be due to a fistula, it often is.

Constipation is often induced from fear of pain during defecation and the sufferer goes on in this condition for years before he seeks surgical relief. Painful or difficult urination sometimes occurs, but rather a perineal burning or pruritis due to the irritating discharge which may be hardly sufficient to soil the linen. Gradually the tract of the abscess becomes thickened and fibrous.

Pain is not an important symptom of a fistula, seldom being more than a dragging sensation or one of discomfort. There may be tenderness on sitting down.

In blind internal fistula the symptoms are frequently intermittent in character, the attacks being due to the lodgment of feces in the opening of the sinus or the accumulation of pus due to partial closure. Relief is accompanied by a more or less copious discharge of pus, which may escape from the anus during the act of defecation.

Examination of the Fistula

When the patient presents himself for examination the diagnosis of fistula has usually been made because any discharge of pus from about the anus has that meaning to the layman. Much valuable information is learned from the patient's description but it remains for the surgeon to determine the existence of the fistula and also its character, origin, extent and pathological nature. The history of injury or abscess antedating the symptoms which have been mentioned above can be brought out by questioning. The duration of these symptoms will determine in a measure whether an abscess or fistula exists. All abscesses in this region which have existed for several weeks after being well drained are to be considered as fistulae; but if drainage has been insufficient the condition may be

one of abscess which may heal if properly drained and treated. An abscess recently ruptured and leaving a free discharge of a small amount of pus indicates a small fistula with openings near the external sphincter. Even if one fistula is found, a thorough search must be made for others or for other rectal troubles.

Position of Patient for Examination

No one position of the patient is suitable for examining all rectal fistulae and even during the examination of a given case it may be of considerable advantage to change the position to explore the entire field. I usually begin the examination with the patient in the left lateral prone position, and then change as needed to the opposite side or to the exaggerated lithotomy, with the hips raised. By a careful examination the diagnosis is not difficult except in the internal incomplete or in the horseshoe varieties. Separate the buttocks by grasping the glutei on either side with the fingers reaching toward the anus, when by gentle traction the external fistulous opening, if near the anus, will be seen in a little depression or in the center of a mass of granulations in the radiating folds of the anus.

The number and location of the fistulous openings is variable. The external opening may be, however, quite a distance from the anus, even out on the thighs or legs and perhaps so small as to admit only a fine probe. It may escape a cursory examination unless a drop of pus be expressed during the manipulations. The whole region must be carefully scrutinized.

Appearance of External Opening—Detection of Fistulous Tract

The appearance of the external opening varies. It may be in a pouting tubercle or in a depression in some scar on the skin, or resemble an anal fissure in the mucous membrane folds at the anus where it may be seen only after forcibly separating the buttocks, or, especially in a tubercular fistula, it may be in the base of an ulcer. If the opening happens to be closed over at the moment of examination, the covering will be thin, pinkish white, and easily ruptured by stretching the edges, or it may be punctured with the end of a probe. As soon as this fragile membrane is broken a drop or two of pus flows out.

By palpating about the anus the tracts may be detected subcutaneously by their hardness. A finger within the rectum follows the sinus inward to its internal opening, and by pressing on the induration a drop of pus will usually appear at the external opening. Sometimes a bidigital examination, one finger within the rectum and a finger of the other hand palpating outside, will better follow the tract and determine whether it is direct or circuitous. This is an important point to determine, as the sinus may even surround the anus. Also the tract may not be of even caliber through its entire length, but may have pockets of pus along its course. Sometimes the tract is very circuitous and the pus may burrow under the glutei muscles and open in the groin or on the thigh, even as low as the popliteal space. Sir Astley Cooper mentions an autopsy where the fistula opened in the groin, but he traced it back along the spermatic cord and found it ended in an apparently ordinary fistula in the rectum. In a recent straight fistula the external opening is large, with edges thin and well marked. There is not necessarily a sinus just because pus is discharged on the skin near the anus; the abscess may open directly on the skin.

Finding the Internal Opening

Finding the internal opening of the fistula is one of the most important steps in the treatment of our case. It is this opening which constantly reinfects the sinus, and unless it is eradicated our cure cannot be permanent. The external opening may be on one side of the anus, and, owing to branching and twisting of the tract, the internal opening may be anywhere within the rectum, even on the opposite side. The internal opening is often found in the posterior commissure, although it may be in the anterior. Generally it is above the external sphincter and below the internal sphincter. The opening may be in an indurated spot, perhaps somewhat raised, or in an ulcer with wide and gaping rough edges, or it may be in the base of a crypt. All ulcerated and even congested spots must be carefully examined for a possible internal opening of a complete fistula or the opening of an internal incomplete fistula. Palpation alone will usually locate the internal opening. When necessary, however, a conical speculum with a sliding window may be introduced and a careful inspection made of the whole canal by gently turning the instrument and by searching every suspicious point with a fine bent probe. In case the internal opening is not readily found, many different methods have been suggested for following the sinus inward to its terminus, but all are liable to error.

Injecting the Sinus

Where there are several ramifications of the fistulous tract, some of which are so fine or bend at such sharp angles that not even a fine probe can pass, injecting the sinus with a colored staining solution, such as methylene blue or permanganate of potassium is of advantage, and may assist in finding the internal opening as the fluid escapes into the rectum. A mixture of one part saturated

solution methylene blue to two parts hydrogen peroxide is forced into the fistula with a hypodermic syringe, having a short, thick, blunt needle. The sinus is filled slowly and carefully, using only slight pressure. As the solution oxidizes, the gaseous disintegration dilates all parts of the sinus and bubbles through every internal and external opening. The rectum should be dilated enough to inspect the mucous membrane carefully and note the fluid's appearance through the internal opening. This little technic is especially valuable where several tracts exist and where a small or unusual sinus might be overlooked. The solution marks all of these sinuses as the peroxide of hydrogen carries the coloring matter into the finest passage. When the internal opening cannot be otherwise found, the solution will bubble out of even the smallest opening.

The great value of bismuth paste injected, not for therapeutic but for diagnostic purposes, ought also be considered. The paste should be thin to reach easily the limits of all side tracts, and the main tract should contain simultaneously a probe passed to its limit. The picture shown by roentgenograms, provided they are taken in stereoscopic form, is often graphic indeed, a bismuth finger pointing directly at the primary focus of trouble, particularly if that be osseous. Flat, nonstereoscopic pictures have no such value. By reinjecting bismuth paste just before operating on a patient, the contrast of the yellow bismuth and the red flesh is far more definite and much more satisfactory than a stain of methylene blue solution or black permanganate solution. Even while operating the watery solution runs out while the bismuth remains in situ and may point out something overlooked.

As I have said above, no technic is infallible, and a fistula may have a valve-like flap at the internal opening or along its course which will close and hold the fluid within the fistula, thus giving a false impression of an incomplete fistula. If this little technic is slowly and carefully carried out there is no danger of carrying infection into new and healthy tissues. The internal opening is not necessarily the upper limit of the fistula. The mucous membrane may be undermined for several inches above this opening. When the internal opening has been found and the tract traced to it from the outside, it is positive proof of a complete fistula. Several fistulous openings on the skin may be branches of one sinus, but multiple openings into the rectum signify several distinct fistulae. When the internal opening is at the base of a crypt the probe or injection is necessary becauses it cannot be felt or seen from within.

Salmon's Law—Probing the Fistula

Salmon's law is valuable in all cases: "A line connecting the tuberosities of the ischium bisects the anus. If the external opening of the fistula is in front of this bisecting line and within one and one-half inches from the anal margin, the internal opening will be radially in from the external opening, but the external opening is farther from the anus than one and one-half inches or posterior to this bisecting line, then the internal opening will usually be found in the posterior commissure."

Probing a fistula except when operating is objectionable and dangerous, because it is painful and may produce new channels, and it affords no information that may not be gained from careful inspection and palpation. If the probe is forced out of the sinus and into the tissues it may mislead the examiner as to the condition of the fistula, besides carrying infection into new fields, thus forming new sinuses. I never probe a fistula, other than the internal variety, except when operating; nor do I hunt unnecessarily for the internal opening. It matters little whether you find the internal opening before the operation, because when you operate you will find it much easier than is possible when the patient is conscious.

Spasmodic contractures occur during examination if the patient is awake, which make the examination painful, but when he is anesthetized and quiet, you have no trouble in tracing out any or all sinuses. If probes are needed, a large variety are essential, from a fine silver probe to a large, soft uterine sound. The probe must be introduced carefully and without force until it has gone as far as it will, when, with the index finger of the left hand in the rectum, one may find the probe projecting through the internal opening, or, in some instances, covered only with the mucous membrane, or it may have passed away from the rectum and cannot be felt at all. Where a tortuous tract exists which the probe cannot follow, the sinus must be dissected step by step. In the examination of internal fistulae, blind or complete, the probe is of advantage in determining the depth and direction of pockets or sinuses. Where the external opening is remote from the anus, a probe may be of value, because often the tract is so deep and covered with so many other structures that it cannot be traced by palpation, even though the internal opening is found.

Granulations and Other Possibilities

Lardaceous granulations, the result of chronic inflammation, line the tract of the fistula and contain many new formed blood vessels. The granulations prevent the healing of the sinus by keeping the walls apart. A recent fistula is, however, sometimes lined with healthy granulations, which form new tissue, and such a fistula may heal spontaneously.

A thorough digital exploration of the rectum is imperative in all cases to determine any possible stricture, neoplasm or other pathology.

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

Twenty-fourth Clinic

A Case of Acute Osteomyelitis

J. F., age 12 years, No. 929/20, Children's Memorial Hospital, was admitted to this hospital complaining of swelling of the left leg.

The following history was taken by Dr. Morrison, the superintendent of that hospital.

This boy has always been in good health until six weeks ago when, while playing in a swing, he dropped off and fell about ten feet, landing on his feet. He was not injured and at the time felt no bad effects.

Two days later he complained to his parents of pain in his left knee and also of a sore throat.

Since that time he has been under treatment in bed by his family physician, who described the condition by telephone very much as follows:

I have been attending this boy for five weeks, visiting him about three times a week and treating him with the ordinary remedies for acute rheumatic fever. He has been running a temperature and has been quite ill. His leg has increased in size in the last few days and the swelling has led me to believe that the condition may be due to an osteomyelitis of the femur. Will you take him into the hospital?

Examination made by Dr. Morrison.

Patient is acutely ill.

He lies quietly in the bed, at times makes irregular movements with his body and hands. He talks irrationally and complains bitterly of the pain in his left leg. He is very much emaciated and extremely pale.

His tongue is coated, his throat reddened and his breath offensive.

There is a peculiarity in his respirations, in that he takes frequent long inspirations, more particularly after waking from sleep. It would seem that he has air hunger.

Examination of the Chest and Abdomen Are Negative

His left leg is enormously swollen from the thigh to the knee. It is flexed to an angle of 20° at the thigh and almost to a right angle at the knee.

Examination of the knee shows the presence of some fluid in the joint, but there is no tenderness nor any special deformity.

Only slight movement is possible at the knee. He complains of pain in his thigh when the knee is moved. A reddened area is noticed on the lower third of the inner side of the thigh. This is found on examination to be tender, tense and fluctuating. The middle and lower thirds of the leg also show evidence of deep seated fluctuation. Indeed this condition seems to be due to a large abscess which has burrowed under the muscles of the thigh.

Acute Osteomyelitis of the Femur

The boy was dangerously ill and he was accordingly given a light anesthetic and an incision was made down to the bone, over the site of the abscess and about 1500 c.c. of thick, odorless, free pus evacuated. The lower third of the posterior surface of the femur was stripped of its periosteum. It felt rough and ridged. No bony sinus was detected. A counter opening was made on the external surface of the thigh and two rubber drainage tubes were inserted to the bone.

The next day the boy's condition was very much improved. He was still somewhat feverish but did not look nearly so ill.

There was not very much discharge on the dressings, but upon irrigating with Dakin solution considerable pus was obtained.

The day after he seemed very well. His temperature had come down to normal. His general appearance had improved. He complained of no pain whatever.

The boy whose history has been read was suffering from an acute osteomyelitis of the femur. During six weeks he was said to have been suffering from acute rheumatic fever.

This is one of the most distressing mistakes which can be made. Acute osteomyelitis in children should not be confused with anything except it be acute cellulitis.

Acute Osteomyelitis vs. Acute Rheumatic Fever

Gentlemen, if I impress only one thing upon you today, let it be that acute osteomyelitis should not be confounded with acute rheumatic fever. Rheumatic fever is a disease with a characteristic history. It is an acute affection. In this affection the temperature and pulse rate are high. An arthritis appears in one joint. It soon appears in a second joint, a third, a fourth or even more joints. It is to be particularly noted that as the lesion in the second

joint appears the lesion in the first joint tends to disappear. One does not see a number of joints all equally affected at the same time. One does not see any tendency to chronicity. Let me express this in other words. Rheumatic fever is an acute affection. It never becomes a chronic affection. There is no such thing as chronic rheumatic fever. There are rheumatoid diseases, but these have nothing to do with rheumatic fever. They should never be confused with it. Acute rheumatic fever is a specific complaint. It has a well recognized history and course. It is comparable in this with such infections as pneumonia. It is characterized also by being profoundly influenced by the use of salicylic acid and the salicylates. On the other hand these do not influence the course of the so-called rheumatoid diseases, osteomyelitis or other arthritic affections.

Again, rheumatic fever is very likely to have as a complication such cardiac lesion as endocarditis, whereas, this complication is rare in the rheumatoid affections.

Acute osteomyelitis in children shows a different picture than rheumatic fever. It always, or nearly always, affects the diaphysis close to its epiphysis of one bone and one bone only. It is most frequently seen in the first decade. The patient probably suffers greater prostration than in rheumatic fever. A high leucocyte count is characteristic of this condition, whereas, a low leucocyte count characterizes rheumatic fever. In acute osteomyelitis the patient has marked pain near one joint which is neither swollen nor reddened until about the second or third day.

Let us now make a careful study of this affection:

Anatomy

The upper end of the tibia, the lower end of the tibia and the upper end of the humerus are almost as frequently the seat of acute osteomyelitis as the lower end of the femur. To study this condition in any long bone, let us take as an example this disease as seen in the lower end of the femur. In studying this condition in any bone it is necessary to remember two anatomical facts:

The periosteum of the diaphysis is not continuous with that over the epiphysis, but ends and is inserted into the diaphysis at the epiphyseal line, thus the periosteum tends to limit the knee joint. The medullary cavity of the femur ends about 2-3 inches above the lower extremity of the diaphysis.

Etiology

The etiological factor is probably an extraneous focus of infection in the tonsil or some other part far removed from the seat of the osteomyelitis. Some consider that trauma at least predisposes to this affection, by rendering the area traumatized less resistent to infection.

Pathology

The infection starts in the diaphyseal side of the epiphyseal line. The infection is first close to the cortex, but in the cancellous tissue (not cavity of the lower end of the diaphysis). The infection later spreads through the cortex towards the periosteum and detaching this raises it from the bone. Almost immediately the formation of new bone begins on the cortical layer of the periosteum. Here and by this the involucrum is formed which latter will, in extreme cases, constitute the whole shaft of the femur or uniting with that part of the femur which is still viable will form this.

Under the involucrum, now under process of formation, that part of the original femur which suffers death or necrosis will become separated as a sequestrum.

The cloaca, which is a term used in the description of the pathology of osteomyelitis, is the opening which remains in the newly formed involucrum or viable bone and which leads to the sequestrum or dead, dying and probably still infected bone.

Age Incidence

It occurs oftenest in childhood, rarely in adults. It is not uncommon in infants of two years or upwards and is most frequent in the first decade. It develops only during the period in which the bone is still quite vascular and is growing.

Symptomatology

Acute osteomyelitis in infants and children is characterized by a sudden onset. The patient is severely ill. He has a high temperature. He has a high leucocyte count. He suffers marked pain in the neighborhood of a joint, the skin over which is slightly swollen and may be reddened, the swelling and redness appears only on the second or third day. It is exquisitely tender to pressure and the area of infection is localized by this means.

Prognosis

The prognosis depends entirely upon the virulence. In virulent cases death may occur in three to four days.

One case of Dr. Clarence Starr's, namely, an infant of two years old, who was taken to the Hospital for Sick Children in Toronto, died in forty-eight hours. The autopsy showed a general septicæmia. The periosteum was stripped from the whole shaft of the tibia which bone evidently had been the seat of the infection.

I remember many years ago being hailed when passing a farm-house near a small hamlet on the lower St. Lawrence and asked to see a child who had been suffering from this condition for less than three days. The child was already in extremis when I saw him and although the duration had not been more than 70 hours, every attempt to save him proved

futile. In cases such as that which we have just described in this clinic, where the virulence is much less or the resistance greater, the life of the patient, although he may be extremely ill, may be saved by a spontaneous rupture of the abscess, but the saving of the bone is only accomplished by early surgical interference.

Diagnosis

I remember hearing Dr. Clarence Starr, of Toronto, to whom I owe a debt of gratitude for increasing my knowledge of acute osteomyelitis in children, make the statement at a meeting of the American Orthopædic Association, that an acute osteomyelitis should be confounded with nothing else except an acute cellulitis. I think that perhaps this is true in as far as some surgeons are concerned, but, of course, we see it confused with other lesions in many cases. We have already shown in this clinic that one patient was treated for rheumatic fever before osteomyelitis was suspected.

Treatment

The aim of treatment should be to relieve tension and to prevent the infection spreading into the cancellous tissue. Find the localized point of tenderness then relieve tension by a simple incision through the periosteum to the bone. This will probably reveal the presence of pus. Drain through this incision.

If no pus is found drill a few holes towards but not to the epiphysis, thus preparing a line of least resistance through which pus collecting in the cancellous bone may escape to the surface. Do not attempt to chisel into the medullary canal.

If the infection progresses without treatment for four to five days a large amount of pus will probably collect under the periosteum. If you have an extensive stripping of the periosteum do not attempt to interfere with the bone until a sequestrum has formed. While a sequestrum is forming, an involucrum is synchronously forming on the outside by the osteogenetic power of the inflamed periosteum.

When the original infection is in the lower end of the femur the medullary cavity does not usually become infected for two to three weeks.

When the sequestrum is detached or easily detachable and ready to come away it may be removed and the cavity wiped out and allowed to heal.

If there is complete stripping of the periosteum from the shaft of the bone, this latter should be left alone to act as a splint until the involucrum is formed of sufficiently strong bone to form a new shaft.

Dr. Herman Goodman says watch for the physiological systemic effects when prescribing thyroid for affections of the skin. In some individuals, even small doses may give toxic symptoms.

Radium in Non-Malignant Gynecological Conditions

Dr. C. J. Broeman has found radium beneficial in the treatment of menorrhagia occurring in women under thirty-five having no gross pathological conditions; in chronic endometritis and endocervicitis, when these conditions have become chronic and refuse to yield to the customary curative measures. In uterine fibroids when they occur in women over thirty-five, do not extend above the umbilicus, and are not producing severe pressure symptoms, radium is the treatment of choice.

If surgery is contra-indicated for any reason, radium should be tried upon fibroids of any size.

He does not advise the use of radium upon tumors extending above the umbilicus, or those causing severe pressure symptoms or accompanied by inflammatory lesions in the surrounding tissues.

Radium should be applied with extreme caution to patients still within the child-bearing period, less too large a dose might produce a permanent menopause.—Author's abstract from the *West Virginia Medical Association Journal*, p. 110.

Arrest of Auricular Fibrillation by the Use of Quinidine

Arthur W. M. Ellis and A. E. Clark-Kennedy (*The Lancet*, October 29, 1921) give a preliminary report of their results in the treatment of seven cases of auricular fibrillation, in five of which the administration of quinidine by the mouth has been associated with return to the normal cardiac rhythm. In all these five cases the change has been demonstrated by polygraph tracings, and in two of them by the appearance of a crescendo presystolic murmur at the apex. In one of these five relapse occurred soon after the drug was stopped, and again a second time when the dosage was reduced. In two the dosage was only decreased and there was no relapse into auricular fibrillation. In two of the five cases, shortly after the onset of normal cardiac rhythm, embolic infarction of internal organs occurred. The formation of clots in the appendix of a fibrillating auricle is not uncommon, and the loosening of these by restored auricular contraction and their projection into the general circulation is easily understood. The pharmacological action of quinidine is still undetermined. Electrocardiographic study shows that, under quinidine, alteration in both shape and size of the auricular and ventricular waves occur and are accompanied by a prolongation of the P. R. interval. It seems reasonable to suppose that quinidine abolishes fibrillation either by increasing the conductivity or by prolonging the refractory period of heart muscle, with the result that the gap is bridged and circus movement ceases. The use of quinidine is not without danger, the risk of embolism being a real one. In the writers' cases the improvement in the general condition was not striking and much less marked than might have been anticipated, and perhaps little more than might be attributed to prolonged rest in bed. That quinidine will take a place in the treatment of cardiac disease seems altogether probable, but the authors show a commendable caution and are ready to admit that the nature of its action and the limitations of its therapeutic value remain to be determined.

The Value of Hydrotherapy in General Practice

Elaborate Equipment Not Necessary

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Enrich Your Therapeutic Armamentarium

The effect of hydrotherapy is often remarkable, even in its most humble form. The washing of the face with cold water removes "sleepy feeling" and sensation of fatigue as if by magic. The exhilarating or soothing action of the cold or hot bath, as the case may be, and its beneficial influences in both health and disease cannot be denied by even the so-called opponents of this form of treatment. Combine these simple truths with the facts so clearly elucidated by Dr. Hayward in this paper and you will enrich your therapeutic armamentarium with a series of "simple procedures which will serve any physician well if he will only make use of them."—Editors.

MOST OF US have grown up, professionally, with the idea that hydrotherapy belongs to the hydropathic institute, hence have not considered whether it might be helpful in the homes of our patients. While it is true that institutional hydrotherapy occupies an important field in the systematic treatment of chronic invalids, there are also procedures that can be carried out in the home, without elaborate equipment and with great benefit both to patient and physician.

Therapeutic applications of water are made chiefly for the purpose of awakening, strengthening, maintaining or diminishing visceral reflexes by the abstraction or addition of heat—for which purpose water is the most facile agent we possess. To this may be added percutient or other effects due to the mode of application. In some instances the addition or substraction of heat is the primary object sought, in which case it may be desirable to influence the reflexes as little as possible.

Then, there are more homely and common—if more important—uses of water which are too often overlooked by physicians, especially by those who seem to have the idea that science in medicine means the substitution of art for physiology.

We may mention the immense importance of water in the removal of body wastes through the alimentary tract, the skin and the kidneys; its influence upon the digestive functions, and the indispensable physiological importance of water in the general economy of the body. A clear conception of these uses of water should influence the management of patients to a far greater extent than is now the rule.

Allowing the foregoing brief mention to suffice for this phase of the subject, and without wishing to introduce any argument in regard to a more extended use of water in family practice, I will attempt to describe a few simple procedures which will serve any physician well if he will make use of them.

The Fomentation

This is a local application of both intense and moist heat. It is prepared by wringing a cloth of proper size and thickness out of boiling water, wrapping it immediately in a warm, dry cloth and applying it to the part. The best material is that from a heavy blanket having cotton warp and woof of wool. A convenient size is thirty-six inches long by twenty-four inches wide. The outer or dry part of this fomentation should be spread on a smooth surface after being warmed; or, in the private home, it may be warmed and spread smoothly upon the part to be treated.

The wet cloth is folded to the desired width, then made into a snug roll, grasped by the two ends, twisted a little and dipped into boiling water, to remain until the water in its meshes has reached the boiling point. It is then wrung quite dry by the process of twisting and stretching, quickly untwisted and spread smoothly upon the dry cloth, which is then folded over it. Because of the dry outer cloth and the absence of wrinkles, and the uniform saturation of the wet cloth, the fomentation may be applied close to the skin at a temperature which produces an immediate and very marked effect upon the circulation of the part thus treated, and often upon the capillary areas associated therewith.

The fomentation is chiefly useful in relief of pain, in reducing passive congestions and *early* acute inflammations, and in softening superficial inflammatory

indurations, and hastening suppurative processes which have not received, or have not been checked by, early treatment. It is usual to apply three or four fomentations in succession, each one to remain on the part only until it has lost the intensity of its heat. The relief from pain, the relaxation, the improvement in impeded circulation, is often magical, and thus it has a salutory effect upon the patient's mental attitude.

The word "early," in connection with inflammations, is emphasized because fomentations may do no good and may do harm if used too late—for example, in inflammations of the lungs when the stage of hepatization is imminent.

The size and material of the fomentation may be altered to meet the requirements of a suitable application for any part of the body. It will be found most useful in acute inflammatory congestions, and in a more prolonged treatment of so-called "chronic" inflammations; e.g., hepatitis. In the latter conditions, it is more effective if a very cold compress or cold friction is interspersed between the applications of the fomentation.

The Moist Compress or Pack

This consists of an old linen or cotton cloth wet or well moistened in the coldest water obtainable, applied directly to the skin, covered snugly with dry flannel and left in place for several hours. The thickness of the flannel depends upon the degree of evaporation desired—a point which must be gained by experience.

The moist compress is useful in the simple, acute anginas, and should the case later prove to be complicated, no harm will have been done. A folded handkerchief wet in ice-cold water, applied to the sub-maxillary and the anterior cervical regions, made to fit well up around the angle of the jaw, and covered snugly with a wool stocking, piece of underwear, or any woolen material that happens to be at hand, will often cure acute sore throat the first night.

The best form of throat compress is a four-tailed piece cut to fit, one tail from each side being brought up over the head, while the other passes around the back of the neck. The thickness of the wet cloth, the amount of water to be left in it, and the thickness of the outer covering, are to be regulated in accordance with the degree of inflammatory heat and congestion present, with some regard also to the age and general condition of the patient.

A similar moist compress or pack to the chest will often abort an acute bronchitis or pulmonary congestion which, if left untreated, might, by the next day, develop into a serious illness.

There are two forms of chest pack, one being a four-tailed affair like the throat pack, having a wide flap to go beneath the shoulder, and a narrower one to go over the shoulder. The outer part is of blanket flannel; the inner, or wet part, of linen or cotton, cut a little narrower than the flannel, as it is important in all these compresses to leave no wet edges exposed.

The other is the "roller chest pack," which is merely a five to eight-inch roller bandage of sufficient length, of the blanket flannel; the wet linen or cotton part to be of any form that can be conveniently and smoothly applied. This form of pack may be adapted to any part of the body where is located an acute congestion, and is very useful, if early applied, in preventing capillary stasis, thus exerting an inhibitory influence upon the subsequent inflammatory processes.

Before the compress becomes dry, it should be removed and the parts rubbed vigorously with cold water or alcohol, and well dried. The compress may then be re-applied, or, it may simply be renewed.

The Evaporating Compress and Ice Compress

The evaporating compress is simply a wet cloth with little or no cover, closely related to the moist pack, and which is useful where a more pronounced cooling, rather than the cooling-poultice effect is desired. Evaporation may be increased by accelerating the circulation of air over the part. (Fanning, window draught.)

Applied to the trunk and thighs, it aids in controlling temperature in fever cases in which there is a hot, flushed skin; e. g., certain cases of typhoid. Applied to the abdomen, it is useful in enteric and peritoneal inflammations; to the spine and scalp in meningitis; to the precordium in pericarditis—all of fulminating types of inflammation. It may also be used with advantage instead of the ice compress in certain cases of dermatitis, and, in fact, wherever the more marked refrigerating effect of the *massive ice compress* or the rubifacient effect of the *light ice compress* is not desired. Of the two latter, the application of the first must be prolonged, care being taken to avoid sloughing of the skin in states of lowered vitality. The last is of briefer duration, deep refrigeration not being desired.

The Moist Abdominal Bandage or "Umschlage"

This is a moist pack applied around the trunk to cover the liver, kidneys and all abdominal organs. It is used in chronic rather than acute conditions, and is therefore usually made so as to render evaporation much less rapid than is usual in the moist pack. This may be done by the use of more thicknesses of flannel, or a layer of oiled muslin or silk may be used between layers of flannel. It is applied snugly at night and removed with cold friction before the patient gets out of bed in the morning. In the case of bed patients, it may be worn night and day, and changed from two to six times in twenty-four hours.

Since the moist abdominal bandage is, as a rule, used for days or weeks, it is important to have the inner or wet part well laundered daily in order to avoid troublesome skin eruptions.

The Heating Compress

This consists of a towel, muslin or gauze folded to fit, wrung well out of cold water (ice water best), applied to the part, covered with flannel or oil cloth and changed as often as it becomes warm.

When it becomes fully warmed by the body heat, a considerable degree of relaxation of the parts beneath it has been accomplished. Then, the application of extreme cold causes a certain degree of contraction, and with the gradual heating there comes another period of relaxation, so we have a gentle, revulsive effect combined with the abstraction of heat. It is desirable to apply the compress very cold, and with as much suddenness as the nervous state of the patient will permit, and it is important to allow the compress to become sufficiently warm before changing. Its use must be modified, if used at all, in asthenic conditions; and where there is much fever with vigorous circulation, it may be used wetter, thicker, and with more frequent changes.

The heating compress is simple, but it is a very effective therapeutic measure. Its greatest usefulness is in acute or sub-acute inflammations within the abdomen and pelvis, but it is also of much value in many other deep-seated inflammatory conditions. (Joints, muscles.) It is helpful in pericarditis (precordium), gastritis, enteritis, acute pelvic inflammations, etc.

If its use is begun early in typhoid fever, the course of that disease is favorably influenced. The splanchnic circulation will be better maintained, resulting in better functional activity, and lessening the liability to deep ulceration and hemorrhage. Temperature and toxemia are kept within lesser degrees, which is a benefit to nervous system, heart and kidneys.

Indeed, if one institutes the early morning daily sweat within one to four days after the onset of typhoid fever, and uses the large heating compress to the abdomen from early morning till about midnight daily, changing it every ten to forty-five minutes, according to the case, and uses common sense about water-drinking, diet, evacuations of the bowels, etc., the disease is so changed as to be scarcely recognizable, and the patient's convalescence is usually prompt and without sequellae.

There are none of the measures outlined above which cannot be carried out by a moderately intelligent home nurse, under the physician's direction. If it is difficult to get the trained nurse to faithfully carry out such methods of treatment, it is probably because she has been well-trained to something else, and does not take kindly to procedures which she may regard as belonging to a sphere beneath that of her profession.

But if any of these measures seem complicated, we will mention one that is simple, namely, the *immediate* immersion of a sprained wrist or ankle in a bucket of cold water, or if the sprain is in a part not easily immersed, continuous applications of large, very wet, cold compresses. The effect is instantaneous and magical, yet how few employ it in cases of sprain. The cold application should be continued until the patient experiences a marked increase of pain; it should then be discontinued and alternate hot and cold applications employed along with other appropriate measures, among which the heating compress days, and the most pack nights, are often useful.

Lavages and Irrigations

Of these, brief mention may be made of but few. The enema and the vaginal douche are quite well known among the laity—certain manufacturers having done much through skillful advertising to popularize colon washing—and they have made the public pay a handsome tuition. The public is satisfied, however, because of the remarkable relief experienced after the thorough rinsing out of a pestiferous cesspool in the colon.

Doctors should take some interest in these humble "treatments" and they, with trained nurses, should be the teachers of the public rather than leave so much teaching to the manufacturers of enema outfits.

It would be well for the physician to exercise more controlling influence over the use of these measures, for he knows that not all patients are benefited and some are injured by their use.

It is the patient with unwholesome intestinal flora and colonic stasis who benefits most, and only the physician is prepared to determine the cause of the stasis and to institute measures to overcome it, and to correct the intestinal flora so that the enema does not have to be repeated ad infinitum.

The Enemata

There are many forms of the enema, but two principal types are used for cleansing purposes. These have come, quite widely, to be spoken of as the "low" and the "high" enema. Hydrotherapists speak of them as the enema and the Colon Clyster.

The enema consists of one-half pint to one quart of hot, warm, cool or cold water, plain or medicated, introduced into the rectum for the purpose of exciting peristalsis and otherwise aiding the rectum and lower sigmoid to discharge its contents. It should be taken sitting or lying on the left side. In inflammatory, tenesmic conditions it should be used hot. In ordinary, spastic or hypertonic conditions, warm. In atonic conditions, cool or cold. It is

sometimes well to order a graduated course from hot to cold, making at the same time use of dietetic and other measures to overcome the conditions calling for the enema.

The colon clyster should signify a thorough cleansing of the colon. From one to three quarts of fluid should be introduced at each flushing, and one to three repetitions may be necessary. The temperatures should be—warm, neutral, cool—ordinarily.

The standard position is dorsal, moderately inclined to the right side, though in some instances it is well to give the first injection in the genu-pectoral position.

It is well to add a small teaspoonful of salt or soda to each quart of water used in the colon clyster. If the rectum is loaded with hard feces, a small, hot soapsuds enema should be first administered.

The partial (not extreme) Trendelenburg position is desirable for the giving of procto-clysis and medicated and nutrient enemata.

In administering any of the above, with the exception of the small evacuating enema, the fluid should be allowed to flow into the bowel slowly.

The fountain syringe with four or five feet of tubing and a glass nozzle sufficiently long to reach well through the sphincters, is the best outfit to use. It will be a relief when doctors and nurses get away from the idea that a few inches of soft rubber tube coiled up in a patient's rectum constitutes a "high enema!"

The Colon Lavage

This is the most thorough-going means of completely cleansing the colon. Its use often requires time and skill and it is reserved for special cases The patient is marked over the tip of the eleventh thoracic spine and moderate pressure or light concussion applied to this point for fifteen or twenty seconds. He is then comfortably placed in dorsal position, legs flexed, and hips slightly elevated. The bed or table is protected by a Kelly pad or some sort of substitute. A large-size, rather stiff colon tube is connected with a large fountain syringe having tubing twice the size of that of the ordinary "enema can," and an elevation of two feet. The water, which should be slightly alkalinized and of neutral temperature (100°) is started and the well-greased tube passed through the sphincter. With great care, and by the aid of the flow of water, one may often pass the tube through the roomy ampulla and beyond the valves, which is desirable.

In some instances the tip of the tube may be guided over the promontory by rectal or vaginal touch. If, however, the sphincters are stretched or manipulated much, peristalsis will oppose the progress of the tube.

Failing to pass into the sigmoid, it is better to withdraw the tube sufficiently to allow its inner extremity to rest just within the internal sphincter. Water is allowed to flow in through the tube until the colon is quite well filled. Then the stopcock is closed, the colon tube disconnected from the tubing of the syringe, and the fluid in the colon allowed to siphon out into a receptacle.

During this process the nurse stands at the patient's side, controlling the tube with one hand, while with the other, gentle, soothing, vibratory movements are imparted to all parts of the colon through the abdominal walls. In executing these movements the warm palm of the hand only is in contact with the abdomen, and the movements must be gentle and rhythmical.

When the colon is quite well drained it is refilled, and this process is repeated as long as there is evidence in the washings of fecal matter that has been some time in the colon. Sometimes fresh material from the ileum comes down during the treatment, and it is easy to distinguish this from the original contents of the colon.

After the colon lavage, one may introduce cultures of bacillus Bulgaricus or any other medicated or nutrient enema desired.

This colon lavage is somewhat difficult, but a very effective treatment in cases in which it is indicated. It may be given to bed patients, even those who are very sick, if it is carefully done.

The Hot Rectal Irrigation

This may be made continuous by means of a return-flow irrigating tube, or intermittent; the fluid passing in and then out through a single tube. Its principal use is to overcome severe chronic inflammations of the rectum, and to aid in eradicating gonorrhoeal infections and removing the results of gonorrhoeal inflammations anterior to the rectum. In some of these later cases, and also for a stimulating effect upon the bowel, the alternate hot and cold irrigation may be used.

In order to accomplish what is desired with the hot rectal irrigation, the temperature must reach the extreme limit of tolerance. In prostatic conditions this irrigation has been used at a temperature of 140°, but many patients will not bear that degree of heat, and one must use caution. If an ice-cold cloth is wrapped round the tube close to the anus to avoid over-heating of the same, a higher temperature can be used than would be tolerated without this precaution, for the heat pain arises from the outer portion of the anus and adjacent skin and not from the rectum. The sitting posture is suitable for administering the rectal irrigation.

Vaginal Irrigation

Aside from the ordinary cleansing douche, the principal therapeutic results of the vaginal irriga-

tion are obtained by the use of from one to four quarts of very hot water (117° to 125°), or the use of a relatively larger amount of water—two to five gallons—at about 105°. The very hot vaginal irrigation is more useful in fairly acute inflammatory conditions and in recent cervico-vaginal infections. It should be followed immediately by the revulsive Sitz for three to five minutes, repeated two or more times, or by large fomentations or hot pack to the pelvis, alternating with cold friction. This combination is often of great value in relieving pelvic pain.

The more copious irrigation of milder temperature is used more in later stages of pelvic inflammations and in post-inflammatory conditions. The dorsal position is best for therapeutic vaginal irrigations, and it is sometimes an advantage to have the hips elevated. The elevation of the fountain should be from one to three feet, according to the conditions.

An intelligent and faithful use of these irrigations, combined with the revulsive Sitz bath, the revulsive hot and cold alternating compresses and heating compress, together with rest and other indicated measures, effects a remarkably beneficial change in many cases which might otherwise be too hurriedly sent to the operating table.

It is true in hydrotherapy, as it is in all other therapeutic measures, that he who uses it successfully must familiarize himself with its principles and technic, and must use it with some degree of confidence and enthusiasm.

Rectal Etiology of Gastroenteroptosis

Permanent Results Can Only Be Achieved by Elevating the Anorectal Line

By E. Jay Clemons, M.D.,
605 Hollingsworth Building, Los Angeles.

Excellent Logic and Worthy Review

The paper of Dr. Clemons is well written and well compiled. It is based on excellent logic of cause and effect. It furthermore reviews briefly but clearly a series of embryologic, anatomic and physiologic facts which the general physician has a tendency to forget. They are all subjects of importance and are well worth reviewing.—Editors.

Definition

GASTROENTEROPTOSIS is downward displacement of stomach and transverse colon. This abnormal state of affairs is the result of faulty distribution of intravisceral pressure causing the hollow viscera to become dependent, for support, upon their fixed portions.

Rectal Etiology

Rectal etiology of gastroenteroptosis is due to displacement of anatomical structures in such a manner as to cause spastic anorectal sphincter muscles. The specific rectal pathology associated with spastic anorectal sphincter muscles is found in cases of hypertrophied anal papillae, anal cryptitis, complicated anal fissures, so-called "sentinel pile," prolapsed polypi, infiltrated rectums, and hemorrhoids. For one to clearly associate spastic anorectal sphincter muscles with gastroenteroptosis it becomes necessary to recall certain facts relating to embryology, anatomy and physiology.

Embryology

At the beginning of embryonic life the alimentary canal is a simple bag, containing the yolk. As the fetus grows, it closes around this yolk-sac, constricting its middle in such a manner as to enclose a portion within the body. This portion within the body develops into the intestinal canal. As the fetus increases in size so does this canal, first elongating, later bending, and eventually convoluting. It is covered with peritoneum, which, being mobile, is easily drawn from one point to another and is capable of considerable adjustment. It does not, however, continue to grow at the same rate as the viscera. For this reason the viscera, except at the two fixed portions, have mesenteric attachments. The two fixed portions are the duodenum and hepatic flexure. Because the duodenum and hepatic flexure are fixed they retain their relative positions, as in embryo, so any transposition of viscera that can take place does so in such a manner as not to alter their position.

The alimentary canal is derived from the innermost layer of the blastoderm, the entoderm. The membranes of the body are derived from the outer and middle layers of the blastoderm, the ectoderm and the mesoderm. Toward either extremity the intestinal canal of the fetus terminates in cul de sacs. At the mouth and anus depressions occur forming short channels leading into the body,

terminating in cul de sacs. The cul de sac of the anus comes in contact with the blind termination of the rectum and by absorption of the two intervening layers the communication between the rectum and the anus is established. The line of junction is the anorectal line. Above this line the alimentary canal is supplied by the vegetative nervous system: below, the anus is supplied by the systemic nervous system.

Physiology

Intravisceral pressure is to some extent produced and maintained through the activities of the intestinal bacterial flora. Distribution of intravisceral pressure is by peristalsis. Peristalsis is vermicular motion of the alimentary canal. This physiological process is due to alternate contractions and relaxations of the muscular coats of the intestinal wall. Innervation of peristalsis is by the vegetative nervous system, whereby the sympathetic division acts in opposition to the autonomic or parasympathetic division of the vegetative nervous system.

Mechanism of Gastroenteroptosis

Spastic anorectal sphincter muscles are the result of downward displacement of rectal tissue, which is supplied by vegetative nerves in such a manner as to remain within grasp of the anal sphincter muscle, which is supplied by systemic nerves. This brings about reflex interference with peristalsis whereby those portions of the alimentary canal with thickest muscular coats become markedly spastic, while those with thinner walls dilate, resulting in so-called "iliac stasis" and gastric dilatation. "Iliac stasis" and gastric dilatation causes abnormal distribution of intravisceral pressure resulting in the hollow viscera becoming dependent for support upon the fixed duodenum and hepatic flexure.

Effects of Gastroenteroptosis

Patients thus afflicted suffer from the effects of bodily derangement which varies from a slight indisposition to a most profound autointoxication because of faulty digestion, assimilation, elimination, and oxygenation resulting in dyspepsia, malnutrition, and overloading of the tissues with waste products.

Treatment of Gastroenteroptosis

Dietary, mechanical, medicinal and surgical measures may be employed in the management of a case of gastroenteroptosis, but in order to achieve permanent satisfactory results it becomes necessary to drain the rectal mucosa and elevate the anorectal line, reconstructing the region so that this line cannot be again forced down, preventing tissue supplied by vegetative nerves from again coming within grasp of the external sphincter muscle. This procedure is best accomplished by a minor surgical operation under local anesthesia, thus insuring the minimum risk and the maximum satisfaction to both patient and operator.

Symptomatic Treatment of Pneumonia

The factors that may cause dyspnoea are discussed by Means and Barach (*Journ. Amer. Med. Asso.*, October 15, 1921). Dyspnoea will arise whenever the pulmonary ventilation called for by the life processes at the moment exceeds the quantity of air that the pulmonary bellows is mechanically capable of delivering with ease. The respiratory centre wishes to maintain a constant alveolar carbon dioxide tension. To do this, ventilation must increase in like proportion to the carbon dioxide output. In pneumonia the metabolism will, as in the normal, be one of the factors determining the volume of the pulmonary ventilation; an increase in metabolism due to the disease will call for an increase in ventilation, exactly as the elevated metabolism of muscular work did in the normal person. The metabolism of the pneumonia patient may be expected to be higher, even while he is at complete rest, than it would be under the same conditions when he was well. He will, in other words, have a metabolic need for increased breathing. If in a portion of the lungs a proper gas exchange cannot take place, in order to maintain blood carbon dioxide tension at a normal level the normal portion of the lungs must be overventilated. Impairment, then, in the respiratory function of any portion of the lungs, if it leads to a mixture of aerated and unaerated blood, will be a factor demanding hyperpnoea. Other causes are an insufficient circulation rate of blood flow and anoxaemia. The lower the vital capacity the more will a patient have to increase his ventilation by an increase in rate at the expense of depth. That the vital capacity is reduced in pneumonia is certain. Whatever the cause, it will have the effect of necessitating a rapid, shallow type of breathing. In the treatment of these conditions the authors suggest that the possible lines to pursue are to decrease demand or increase supply of ventilation. Two procedures which may be expected to diminish the need for ventilation are the giving of alkali and the therapeutic administration of oxygen. Bicarbonate should be given only in amounts sufficient to turn the urine alkaline to litmus; if pushed farther than this it may do harm by producing alkalosis. Oxygen should be given with one of the modern types of apparatus and often nearly continuously by a specially instructed nurse; its continuation is to be governed by the effect on the cyanosis and the comfort of the patient. These measures are supplementary to specific therapy. When used, however, they may be expected to spare the patient several avoidable burdens and leave him free to devote his entire energy to the fighting of his infection, thus theoretically, at least, improving his chance of recovery.

Painful Scars

J. F. Corbett, Minneapolis (*Minn. Medicine*, December, 1921), conclusions are:

1. Surgeons should pay more attention to nerve supply and conserve nerves when possible.
2. Blood vessel ligatures should not include nerves.
3. In amputation cases or whenever a nerve must be cut the proximal part of the nerve should be injected with alcohol with purpose of preventing a neuroma.
4. In all operations upon nerves associated with pain, watch must be kept for neromata in small unimportant nerves.
5. Neurological examination may reveal nerve lesions in cases presenting themselves for reoperation for "adhesions."
6. After alcohol injection of a nerve the nerve stump should be so planned that it will not be subject to irritation.

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practitioner must be recognized. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

Half Way Through

The Plight of the Middle-Aged Doctor

HALF-WAY THROUGH his term of office, when his second legislature has adjourned, the enactments approved or vetoed, the appointments all made, and the slate-makers begin to arrange to wax the slide, a governor feels like the umpire in the fifth inning with a heavy score on one side and a goose-egg score on the other. But in a close game the umpire has a chance for a bit of excitement; so has a governor, if he keeps his nerve and refuses to feel that he is going down the shady side of political life.

If four years of office-holding is like the proverbial month of March, coming in like a lion and going out like a lamb; or if forty years of medical practice is estimated the same way, the doctor letting down when half-way through, it would seem a better plan to have March come in like a lamb and go out like a lion.

Ordinarily the trouble with the lion business is that it is mostly roar, especially with a young lion, or a young doctor, and after he has tired of roaring and is content to den up the people "get his number" and begin to count him a "has been" because he lets them think so and does nothing to change their estimate of him.

It is largely a matter of psychology, for a governor can flunk out after only two years, when it may take a doctor twenty years to do so; the principle is the same in both instances, and the cure is to stop watching the clock and be so interested in one's work that one is utterly amazed when the whistle blows with a splendid job not yet done that no one else can do so well and that the boss of the shop realizes he cannot afford to place in other hands.

The Trouble With the Lions

We have just been reading an article in a Western medical journal and entitled "Do Our Leaders Lead?" and as we know the author to be only forty years old, capable, holding good appointments, etc., the note of pessimism, unjust criticism and carping slams throughout the paper remind us of a certain governor who in the middle of his term was on his job a day or two each month of the remainder of his governorship, which went out in an orgy of mud-slinging—and to this day a lot of the mud is still sticking to *him*, while his opponents are still "lily white" in politics. And it all came from going into the governor business with the lion idea but a sore throat.

When a young cockerel whose spurs are only beginning to sprout begins to strut and do alleged crowing, it is well for him to keep out of the way of the old roosters, for they are apt to do him up or run him off the lot, after which he becomes misanthropic, loses out with the ladies, slams the leaders, and finally gets his head chopped off because he is a no-good rooster, fit only to be roasted.

If a lion has the judicial temperament, keeps his mouth shut until he has something worth while to roar about, refrains from cultivating a nasty disposition, and reaches middle age with good wind and staying qualities, he is "king among the beasts;" but few lions do this, and as a consequence most of them are chewed up by the tigers before they are old enough to put up a good fight.

The Mental Attitude of Middle Age

One can excuse a young fellow for losing his temper, exaggerating, slamming his opponents or saying unwise and unjust things, provided he does not do too much of it and gradually learns better than to do these things at all; but the middle-aged man who cannot control himself is apt, some day, to wake up to the fact that his fellows who really count in the scheme of things regard him as a pest.

Successful living is just one compromise after another; not a compromise as between right and wrong, but between forces and opinions, and the middle-aged doctor is *persona grata*, or is not, largely on the basis of his mental attitude, his ability to view matters straight, get along with people as they are, realize that he is just as apt to be wrong as is the other chap, be a good loser or a modest winner. Whatever we may think of the leaders in this world, the

fact remains that they have certain qualities, else they would not be leaders.

The two greatest handicaps a middle-aged doctor can have are lack of enthusiasm and an overplus of obsessions. Half-way through is the time to get a well-tempered enthusiasm over something worth while and to "start something." The average old chap has an intolerable itching to start something *backwards,* forgetting that every generation establishes its own standards; but the blessed young chap of fifty goes along with the new generation but adds his tempered wisdom to the elaboration of something acceptable to the times, always courteously listening to younger men and keeping cheerful, even when fighting. This world is full of big men; cultivate their acquaintance, and you will soon be big yourself, be placed in position of responsibility where you have to work like the deuce, be consulted in affairs, learn how to do team work and really get there; and then you can smile indulgently at the carpers who attribute all of your success to having a "pull." An advertisement that "pulls" is a good advertisement, and he is a pretty poor yap of a doctor who can't organize his own "pull" on the basis of merit and being worth while.

The Curse of the Obsession

The Bible tells of many persons and critters of various sorts that were possessed of an evil spirit, but the outstanding instances were old chaps and hogs, and the latter "ran down a steep place into the sea and were drowned," which would have been a good ending for the humans who were possessed. Now, being obsessed is just one step short of being possessed, and an obsession is alway dangerous. Every editor has a lot of contributions come to his desk which are written by persons who are obsessed, unreasonable, one-sided and cranky; and most of them are written by men and women who are over fifty years of age. Look out, doctor! Don't allow yourself to become obsessed. Sometimes whole groups of people are obsessed. An instance appeared in the newspapers recently, for at a certain church conference a resolution was passed calling upon the United States Government to sever diplomatic relations with every nation that refuses to adopt prohibition as the national policy. Think of it!

Being Unhappy

We all have middle-aged patients come to us whose countenances look like three rainy days. They whine, complain of a multitude of nebulous symptoms, are touchy, grouchy, critical, fussy and have thoroughly nasty dispositions. If they would just buck up and swear a little bit, even get drunk once in a while, or come in with a black eye achieved in a fight, we would like them a whole lot better; but they are afflicted with a certain brand of ingrowing righteousness and their motto is "I am holier than thou." Yet careful examination reveals absolutely no physical disease and, in addition, no real reason for being unhappy. The psychologitis of middle-age is one of the worst and most intractable of diseases, readily prevented by the free use of a club in the premonitory stages, but not budged by an earthquake in a fully developed case.

The half-way-through doctor is apt to contract psychologitis, unless he gets out of the rut; and after that he is just as useless as an elephant's tail or an appendix on a strike for union hours. So, doctor, get out of that rut and thus avoid psychologitis.

What Do You Know?

Not that anybody cares particularly if you don't know a bloomin' thing; that's your lookout. People will pass you cigars, pat you on the back and even solicit you for insurance when they know that you could not make twenty per cent. on Edison's questions. Pretty nearly all that's left to some middle-aged doctors is to run for the legislature. Oh, no, not quite all; your office is a handy place and you are a good chap and cheaper than the other doctors, so you are valuable to the community in small medical routine work.

Say, doctor, the above does not fit *you;* but you know it fits only too many middle-aged physicians, who are half-way through and are letting down, ceasing to study, read the journals, buy books and read them, attend medical society meetings and take post-graduate courses.

Now's Your Time

Some governors buck up in the middle of their terms; some league games are most full of pep after the fifth inning; some lions are kings among beasts as long as their teeth last and some doctors make a tremendous stir after they are sixty years old. The "plight" of the middle-aged doctor is principally of his own making; he regards himself as half-way through, at the top of the hill and the coasting down will be easy. Of course it is easy to coast down; but *what was the use in climbing to the top unless you mean to stay there?* There's nothing but oblivion and a long sleep at the bottom, where you are "unhonored and unsung." Doctor, put on brakes, maintain your ground, and you will be a middle-aged doctor while your fellows around you grow old and slide, *slide, SLIDE.* You are as young as you feel.

T. S. B.

Protest Against Cornell University Establishing a Pay Clinic

Editor AMERICAN PHYSICIAN.

The Bronx County Medical Society at a meeting held on November 16, 1921, unanimously adopted the following resolutions and recommendations:

Resolved: That we protest against the abolition of the Poor Clinic by Cornell University and against

(*Continued one leaf over*)

After Abdominal Operations

bowel paresis—intestinal atony—is frequent from the effects of the anesthetic, the shock of the operation, or the handling of the intestines.

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has proven of exceptional value. Used systematically it softens the feces, lubricates the canal and assures easy evacuation without discomfort or straining at stool.

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the entrance of the University into commercial medicine for a profit;

That the establishment of Pay Clinic by a University is inimical to the best interests of the public at large and of the medical profession in particular, because such clinics are in direct competition with the physicians who practise in the immediate and remote vicinity.

That the offer of co-operation by the University with the general practitioner is a blind to beguile the latter to refer cases to them.

That we condemn the conduct of the physicians who permitted their names and their positions to be used for such crass newspaper publicity as the advance announcements contained.

That such advertisement is distinctly adverse to the best actions of medical men and to the code of ethics as established by the American Medical Association.

That we recognize that these very men will not and cannot offer their services to the patient, but will merely act in an advisory capacity far from the clinic rooms.

That for all the above reasons we recommend that the respective County Societies to which these men belong, and under whose jurisdiction Cornell University Medical School exists, shall take proper and fitting action to reprimand these men and the University, and furthermore, shall recommend to its members that they not accept positions in a dispensary that works to the economic detriment of their brethren.

Yours fraternally,

I. J. LANDSMAN, M.D., *Secretary.*

391 East 149th Street, New York City.

We publish the above without comment and will be equally ready to give space to the other side.—EDITORS.

Internationalizing Sera Standards

Co-operation of the foremost laboratories of the world, including the United States, for the unification of international standards of anti-toxic sera has been begun on a large scale by the League of Nations Health Committee, according to detailed plans received here today. Already two preparatory conferences have been held, the work divided amongst the various national laboratories, and the individual studies been begun.

The United States has agreed to co-operate in this work through the United States Public Health Service at Washington, and through the presence at the conference of Dr. Rupert Blue, Assistant Surgeon General, stationed at Paris. German scientists will also take part, as well as Japanese, and representatives of all the greater European medical services.

The work involved is considered of great importance to the medical world. Up to now there has been as much confusion in the various national standards of measuring the strength of anti-toxic sera for diseases such as dysentery, tetanus, diphtheria, syphilis, meningococcus and pneumococcus as there has been in the different currency systems in the world.

This has had two serious effects. First, the American scientist, for instance, is handicapped in studying methods of treatment of various vital diseases abroad, because of the different standards of measuring the strength of the anti-toxic sera employed; secondly, as international trade in sera is increasing, it represents not only an inconvenience, but a positive danger to have their strengths listed at varying standards.

In order to obviate these difficulties, the Health Committee of the League of Nations began a series of studies last October, which resulted in an international conference at London in December, when some of the foremost scientists of the world came together to prepare plans for the first joint experimental inquiry of the sort ever attempted. A program was adopted whereby the study of the effects of the various standards was divided according to diseases amongst the various laboratories represented. To the Hygienic Laboratory at Washington, for instance, it was proposed to allocate the study of tetanus and diphtheria. As soon as these studies have been completed, they will be co-ordinated through the State Serum Institute at Copenhagen.

Other bodies which will co-operate in the work are the Medical Research Council of Great Britain, Pasteur Institute of France, State Institute of Italy, State Institute of Warsaw, Hygienic Institute of Basle, Pasteur Institute of Brussels, Kitasato Institute of Japan, as well as Austrian and German organizations.

League of Nations News Bureau,

Raymond B. Fosdick, *Director.*

2702 Woolworth Bldg., New York City.

More Light on Argyria

Editor AMERICAN PHYSICIAN.

I notice on page 48 of the January issue, an article by Dr. Hyman I. Goldstein, in which he reports a case of argyria by Lochte following the use of Silver-Salvarsan.

For your information, I beg to say that the *Journal of the A. M. A.*, of October 23, 1920, contained a report of a case of argyria, so-called, from Silver-Salvarsan (the only one reported after more than 500,000 injections of the drug in Europe).

Immediately after the publication of the report, Colonel Metz communicated with the Farbwerke of Hoechst by cable and received the following answer:

continued one leaf over)

Doctor, do you know the distinctive characteristics of Grape-Nuts?

The cereal food, Grape-Nuts, is made from a mixture of malted barley, whole wheat flour, salt and water; raised by yeast, baked in loaves, sliced, again baked and finally crushed into granules. More than 20 hours are consumed in the various baking processes.

Thus prepared, this unique food is characterized by:

1. A distinctive flavor, satisfying to the taste and appetite.
2. A physical condition whereby the Grape-Nuts does not form a pasty bolus inaccessible to the digestive fluids, but retains in a softened condition its granular form throughout the digestive tract so that even at the beginning of digestion all portions come into intimate contact with the digestive juice.
3. Nutrient ingredients, some partially digested, all accessible for digestion.
4. Natural ingredients in sufficient amounts that resist digestion and give bulk to the intestinal contents.

The results obtained by its use are:

a. Well balanced, satisfying nutrition.

b. Passage through the alimentary tract without physiological stasis, thus avoiding excessive fermentation and putrefaction of the food, with consequent auto-intoxication.

c. Bulk and moisture to the contents of the sigmoid and rectum, thereby inducing normal peristaltic action and avoiding stasis in the bowels.

These are some of the reasons why Grape-Nuts is of such great value in maintaining health and is particularly indicated for the correction of auto-intoxication and the nervous diseases that are exacerbated, if not caused by this condition.

Samples of Grape-Nuts, for individual and clinical test, will be sent on request to any physician who has not received them.

Postum Cereal Company, Inc.
Battle Creek, Michigan, U. S. A.

"The only two references we have ever seen to argyria following injections of Silver-Salvarsan, refer to the same case and were based upon a report entitled: 'Argyria After Twelve Silver-Salvarsan Injections,' *Therap. Halbmonatsh.*, June 15, 1920, by Dr. Lochte, and 'Supposed Argyria After Silver-Salvarsan on the Strength of the Diagnosis of a Naturopathist and not Controlled,' by Dr. Schlossberger. These references are based on the same case.

"Lochte denies expressly the authorship of the sensational heading and states that the case report as sent to him bore this heading. Lochte states that he did not see the case himself, although he requested that the patient call upon him. Therefore, he says he was not in a position to confirm the diagnosis of the naturopathist, and he himself suggests the possibility of an arsenical melanosis.

"If we can believe Tweedy (*Dublin Med. Jour.*, July, 1895), silver must be taken for a period of about three years in order to produce argyria."

The letter continues that despite the administration of more than half a million Silver-Salvarsan injections, no case of argyria has been observed by competent authorities. In rabbits which were injected intravenously with from 0.02 to 0.04 gram Silver-Salvarsan per kilo body weight, every third or fourth day for a period of from nine to twelve months, no argyria of the skin could be demonstrated, although they had between three and four grams of silver. The silver was deposited in the otherwise normal intestinal tract, according to Fischer (Frankfurt-on-Main), Kolle, W., D. M. W., 1918, Nr. 43, U. 44, especially Kupffer's starcells of the liver and to a lesser degree in the kidneys. No functional disturbances could be observed in the rabbits; their weight increased constantly.

Another thing to be considered in this Lochte report is that this naturopathist gave the injections intramuscularly, although the manufacturers insisted that it be given intravenously. It is not difficult to imagine that a hypersensitive patient might have an argyria following the intramuscular injection of silver, as it would likely be more easily deposited when injected this way.

Personally, I have looked into the matter very carefully and I find that according to the best authorities, it takes fifteen grams of silver to cause argyria, and if we were to give a course of twelve injections, using a maximum dose of three decigrams, which is more than is recommended, the patient would only get 3.6 grams in a course, leaving a very wide margin between the amount taken and the minimum for the causing of argyria. As a matter of fact, I believe the danger from argyria is exceedingly small.

Very truly yours,

H. Sheridan Baketel, M.D., F.A.C.P.
New York City.

Book Reviews

Nut Growing

By Robert T. Morris, M.D., New York City. Cloth, illustrated, 236 pages. The Macmillan Company, New York. Price, $2.50.

Dr. Morris is always original, and what he says is always worth while, whether in his specialty, surgery, or in the fad he has taken up to the point of professionalism, nut growing. This book is the outgrowth of his many years' interest in nuts and their future in this country.

The book opens with a most interesting presentation of the sociologic phases of the subject, discussing the world's future food supply and the apaedion index to the decline of nations, as based on the cultural limitations of man and the impossibility, as Dr. Morris views it, of the world ever becoming over-populated, though it may become hungry. This latter menace he would help to meet by using great wasted areas of rough land for the cultivation of food- and lumber-producing nut-bearing trees. If marketing and financial matters make progress as fast as the author wishes to see nut cultivation promoted, there is certainly a future for nuts; but their cultivation must be made to pay.

As a contribution to agricultural literature the book possesses marked value, being dependable in statement and a safe field guide. Perhaps the most valuable and original feature of this work is the section on grafting and budding. In this matter surgical principles have been applied to a subject that has made little progress for generations and the author is entitled to much credit for his painstaking investigation of the subject.

Doctors who wish to pursue a side line full of charm, and perhaps of profit in dollars and cents, should buy and study this very excellent and inspiring work.

The Oxford Medicine

By various authors. Edited by Henry A. Christian, A.M., M.D. Hersey Professor of the Theory and Practice of Physic, Harvard University; Physician-in-Chief to the Peter Bent Brigham Hospital, Boston, Mass., and Sir James Mackenzie, M.D., F.R.C.P., LL.D., F.R.S.; Consulting Physician to the London Hospital, and Director of the Clinical Institute, St. Andrew's, Scotland. In six volumes. Illustrated. Volume IV—Diseases of Lymphatic Tissue, Metabolism, Locomotary Apparatus, Industrial Disease and Infection Diseases. Oxford University Press. American Branch, 35 West Thirty-second Street, New York. $15.00 per vol., or $90.00 set of 6.

This volume is fully worthy of the splendid comment already awarded those of the three preceding ones. The book is still a text *par excellence.*

Vice and Health

By John Clarence Funk, M.A., LL.B., Director, Bureau of Protective Social Measures, Pennsylvania Department of Health; Scientific Assistant, U. S. Public Health Service; formerly U. S. Navy Law Enforcement Representative and Vice-Agent U. S. Department of Justice. Cloth, J. B. Lippincott Company, Philadelphia.

This work of 175 pages presents in semi-popular form the problems of vice and prostitution in con-

(Book Reviews continued one leaf over)

Inducing

better peristaltic action by the regular use of BRAN



Medical authorities now generally agree that old age and sickness have their inception in the intestinal tract and that the most effective way to ward off these enemies of mankind is to rid the patient's system, at the earliest possible moment, of waste materials.

Kellogg's Bran, cooked and krumbled, through its mineral salts and its ability to absorb water, giving bulk and moisture, is nature's way to assist in perfect elimination. The intestine is thus distended and better peristaltic action secured.

Kellogg's Bran, cooked and krumbled, forms no habit; besides, unlike common bran, Kellogg's is not irksome for the patient to eat. Kellogg's has a delicious nut-like flavor, and in its attractive, krumbled form is most appetizing. Kellogg's is served the patient as a cereal, or sprinkled on other hot or cold cereals. It also makes delightful bakery batches. We particularly recommend bran griddle cakes, muffins, raisin bread, gems and macaroons, etc. Recipes appear on every package. Kellogg's Bran is sold by all grocers.

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MINERAL SALTS	**8.41**
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Calories (per pound)	1480.46

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Look for this signature W.K. Kellogg

the original BRAN - *cooked and krumbled*

tained and constructive language far from sensational; and the suggestions for solution of the vice menace to health are founded on practical experience and observation over a wide area both in times of peace and war.

The author is an attorney and student of sociology, and he brings to the preparation of this work a tempered enthusiasm that discounts much of mere propaganda, the result being a volume well worth while and designed to aid the lay and professional reader to the attainment of sane opinion concerning vice and the health problems it precipitates.

The Diagnosis and Treatment of Intussusception

By Charles P. B. Clubbe, L.R.C.P., M.R.C.S., Consulting Surgeon to the Royal Prince Alfred Hospital, Consulting Surgeon to the Coast Hospital, Sydney; Hon. Surgeon to the Royal Alexandra Hospital for Children, late lecturer in Clinical Surgery, University of Sydney, New South Wales. Second edition. Henry Frowde, Hodder & Stoughton, Oxford University Press, London. Price, $2.50.

This is an excellent discourse of practical value, "based entirely on experience of intussusception during the last thirteen years."

Affections of Nose and Throat

One New York physician writes: "During the last year I have treated a large number of patients suffering from coryza, chronic rhinitis, pharyngitis, laryngitis and hayfever with Rhinol, and it gives me great pleasure to state that the results have been very satisfactory in each instance. Rhinol is one of my standbys in my practice and now that I have realized its great therapeutic value in the treatment of the above-named conditions, I could not do without it."

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Results Evident the First Night

If you knew, as many physicians have learned from experience, the excellent results from Creo-Tussin in whooping cough, you would not be without it. The good results are evident the first night.

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The product is made by a special process which entirely eliminates the possibility of unpleasant empyreumatic admixtures, and thus still further improves this standard synthetic in the treatment of rheumatism, gout, neuralgia, neuritis, sciatica, migraine and "retention" headaches.

Schering & Glatz, Inc., 150-152 Maiden Lane, New York City, will be glad to send a trial box of Atophan Tablets to AMERICAN PHYSICIAN readers on request.

(Helpful Points continued one leaf over)

ACTIVE CATHARTICS OR PURGATIVES THAT PRODUCE A WATERY STOOL DO NOT GIVE GOOD RESULTS IN

Habitual Constipation

as the digestive secretions are carried off and a period of constipation follows until the secretions again accumulate and the natural process of digestion and assimilation is resumed.

A mild tonic laxative gives the best result and you can obtain this with **Cascara Comp. Tablets (Killgore's)**, as they stimulate the secretions, give an easy natural movement without griping and do not become ineffective by continued use.
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Regularity in bowel movements contributes much toward normal, healthful progress, and a knowledge of the number and character of the stools during each twenty-four hours is an important part of the general management of early life and assists much in properly adjusting the diet.

Suggestions for the regulation of infants' stools by slight changes in the make-up of the diet and particularly in relation to

Constipated Movements

are given in our book, "Formulas for Infant Feeding," and in a pamphlet devoted especially to this subject. This literature will be sent to physicians who are interested in the matter.

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The following cases illustrate the clinical value of Styptysate as the remedy for hemorrhages:

Mrs. E. M., age 30. Menorrhagia of five years, with menses of ten days' duration, at times more profuse than at others, some dysmenorrhea which caused her to go to bed. January 10, 1921, 8 A. M., patient unable to sit up. Prescribed Styptysate in dose, 15 gtts., t.i.d. 9 P. M., better, less pain, less discharge. January 11, 1921, improving. January 12, 1921, feeling O. K. Menses four days instead of ten as heretofore. Expect to see less trouble next time, as action in this case was remarkable in the light of previous experience.

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The manufacturers of this effective product, Ernst Bischoff Co., Inc., 85 W. Broadway, New York, are making a very special introductory offer; turn to page 175 and send in the coupon.

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A clinical test, six-ounce bottle of Usoline, will be sent free to AMERICAN PHYSICIAN readers. Address: Oil Products Co., Inc., 50 Union Square, New York.

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In the treatment of stubborn, sub-acute and chronic sinus infections, middle-ear disease, chronic tonsillitis, chronic bronchitis, asthma and such conditions, many clinicians are not depending on drugs, but using instead Mixed Vaccine—Ear, Nose and Throat (National).

Begin with initial dose of 200 million bacteria. Reaction slight, persisting not over twelve to twenty-four hours. Subsequent doses at five to seven-day intervals until the full treatment (four doses, 200, 500, 1000 and 2000 million bacteria) has been given.

This has also been found to be a very efficient prophylactic against colds. Literature and price lists will be sent gladly to AMERICAN PHYSICIAN readers. Address: National Vaccine and Antitoxin Institute, Washington, D. C.

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Prosto-Orchoid Compound (Mayson) contains prostate gland, orchic and lymph glands, with nuclein in suitable proportions. Physicians are obtaining gratifying results by the use of Prosto-Orchoid Compound in impotence, sexual neurasthenia, prostatic disorders and hypertrophy of the prostate with irritation of the bladder. Prosto-Orchoid Compound (Mayson) is used with marked success in senility, chronic prostatitis, prostatorrhea and after prostatectomy, and is a most valuable genito-urinary tonic.

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(Helpful Points continued one leaf over)

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"About two years ago I was treating the little daughter of Mrs. C. W. R—for Potts Disease of the spine; the last dorsal and first two lumbar vertebrae being involved. She was put into a plaster cast, and improved somewhat, but owing to the low location of the kyphosis it was impossible to get a satisfactory result and after two or three applications, the child refused to have another cast applied. A rigid brace was out of the question and I knew of no non-rigid one. Luckily Mrs. R—knew of yours, and we applied it. Yesterday (April 12, 1921) she came to my office and I was surprised and delighted at the wonderful change in the child's condition. She had grown five inches, and gained 32 pounds. Although the kyphosis remained and there were scars from the sinuses, the spine was straight and almost as flexible as normal, and she looked the picture of health. I examined the appliance with great interest and was pleased with it. I shall use it in my practice, which is Orthopedic Surgery, as it is more comfortable than a plaster or celluloid jacket and can be taken off at any time and re-applied. I congratulate you upon the workmanship and perfect fit."

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They contain SEXUAL HORMONES, i. e., the hormones of the reproductive glands and of the glands of internal secretion.

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Pneumonia is still the unconquered foe of medical science, but clinical experience has discovered promising weapons to use against this disease. One of the most promising measures in the treatment of pneumonia is the proper application of Pneumo-Phthysine. Properly applied, not too hot, it will be found a very real aid in controlling pain, temperature and generally aiding in a successful outcome.

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It is unscientific and even dangerous to dispense culture media in bulk—the Franco-American Ferment Company has therefore introduced the "small drink" dose in individual one-dose bottles.

You will find that the administration of Bacillus Bulgaricus cultures, as worked out by this company, liberal dosage—minimum expense—effective results, will be found to be the most satisfactory method.

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(Helpful Points continued one leaf over)

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They break the "Vicious Circle" in Hemorrhoids

Hemorrhoid sufferers are always inclined to become careless and dilatory in their bowel movements, for fear of painful defecation.

And right there starts the "vicious circle"—constipation, local irritation, aggravated Hemorrhoids, painful defecation, increased irregularity, and so forth.

Anusol Suppositories remove the dreaded strain and the reassured patient resumes his regular bowel function.

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(Advertising Standards one leaf over)

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Enclosed please find check for three dollars for which send me one complete Rhinol outfit. You have a very superior preparation, and I was astounded at the quick results produced.

I am very much disappointed that you cannot or will not supply my druggist, Theo. Metcalf Co., as I would like to prescribe your outfit for some of my patients. I cleared up my own acute frontal sinusitis in a few days, then gave it to a hayfever patient who has been more relieved than by anything she has ever used. I dread being without the outfit for fear I may have another attack of sinusitis. Hoping for an outfit by return mail, I am, gratefully yours,

(Signed) JACOB D. SNYDER, M.D.

542 Boylston St., Boston, Mass.

Price Complete, $3.00—Refilled Packages, $2.50

RHINOL COMPANY, Inc. 1416 Broadway, New York

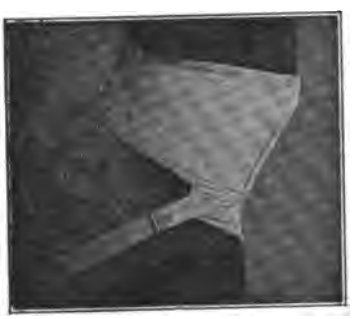


OUR tremendous purchase from U. S. Government of unused Army Operating Tables enables us to offer this cut-price bargain. Suitable for examining, treatment and operating. Adjusts easily. Made of steel enameled "snow white." Heel stirrups and leg holders free. Just $2.25 brings it to you. *Try it for 30 days; if not thoroughly satisfactory, return it and we will refund your money. If satisfied, send balance in 7 payments of $2.50 each. If you prefer to pay cash, we allow 10% discount, making the net cash price $17.78.*

A. S. ALOE CO.

551 OLIVE ST. ST. LOUIS, MO.

THE STORM BINDER
AND ABDOMINAL SUPPORTER
(Patented)



THE STORM BINDER is adaptable to any case where an abdominal supporter is needed for man, woman or child.

THE STORM BINDER IS FOR GENERAL SUPPORT IN Visceroptosis, Obesity, etc., etc.

THE STORM BINDER IS FOR SPECIAL SUPPORT in hernia, floating kidney, descent of stomach, etc., etc.

THE STORM BINDER IS FOR POST-OPERATIVE SUPPORT of incisions in upper, middle and lower abdomen.

THE STORM BINDER IS FOR MATERNITY CASES, relieving the nausea and discomforts of pregnancy.

Ask for illustrated folder.

Orders filled in Philadelphia only—in 24 hours and sent by parcel post.

KATHERINE L. STORM, M.D.

1701 Diamond Street Philadelphia

These Advertising Pages are an

HONEST MARKET-PLACE

A Convenient Place Where You Can Deal With Confidence; and get information—commercial, scientific, general—helpful to you and reliable.

We believe the right kind of medical journal advertising is truly useful to the medical profession. We seek to promote and extend that usefulness.

Our Advertising Standards

Advertisements must give honest service to our readers and their patients—is the *basic principle* for these standards and for the conduct of THE AMERICAN PHYSICIAN's advertising pages.

Our attitude in applying these standards is not one of narrow technicality but of *practical service*—

Advertisements must give honest service to our readers and their patients.

Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

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Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

Pharmaceuticals and other mixtures containing narcotics or other habit-inducing drugs in quantities sufficient to promote their repetition on prescription (chloral-bearing proprietaries, etc.).

Potent pharmaceuticals which justly merit professional disapproval because of their lay advertising or *manifestly* unethical exploitation.

Financial advertisements that claim returns not compatible with conservative investment. Only *conservative* investments are advertised.

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Advertising copy is subject to revision by the editorial staff.

THE AMERICAN PHYSICIAN agrees *heartily* with the *principles* of the Council on Pharmacy and Chemistry of the American Medical Association and we exclude from our advertising pages such pharmaceutical products as they have definitely shown to be unworthy of professional confidence and the manufacturers of which have not removed the cause of objection; but we do not accept such findings as are based on academic data without due recognition of general clinical experience.

Concerning formulæ, THE AMERICAN PHYSICIAN is urging pharmaceutical manufacturers to give full therapeutic data regarding formulæ, stating quantitatively active medicinal content, in order that physicians may intelligently prescribe. We do not accept advertising of secret pharmacueticals.

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Advertising of original drugs, compounds or preparations imitated in current editions of the U. S. Pharmacopœia or National Formulary (except habit-inducing preparations); new products that seem to be honest and valuable, but which have not been reported upon by the Council on Pharmacy and Chemistry, or similar products whose manufacturers have not yet submitted the same to them for approval or rejection. We use our own judgment in these cases, but will always consider proper charges against this class of remedies.

Preparations containing a limited number of drugs in admix-

(Continued one leaf over)

PYRAMIDON

After almost thirty years of service this drug stands out pre-eminent as an antipyretic, analgesic, antineuralgic and sedative.
Pyramidon is supplied in powder form in 1 oz., ¼ lb. and 1 lb. cartons and in tablets of 5 grains in aluminum tubes of 10, and in bottles of 100 tablets. Prices to physicians are $1.20 per ounce, 40c per tube of 10 tablets, and $3.00 per bottle of 100 tablets.

ORTHOFORM

Utilizable as a local anesthetic for the relief of pain from wounds, burns, ulcers, excoriations and all exposed nerve-endings. Orthoform is used as a powder in insufflation, as an emulsion, or in tablet form. It is given internally for the relief of pain in gastric ulcer and gastralgia.
Orthoform is dispensed in 1 oz. bottles which sell to the physician at $4.50 and in 5 gram vials at 90c per vial.

ORTHO TROCHES

Are employed for the alleviation of pain and the mollification of irritation following all operative procedures on the throat. They dissolve slowly, thus producing a prolonged anesthetic effect. They are dispensed in bottles of 100 tablets of one-quarter grain each or of one grain each at $1.00 and $1.75 per bottle, respectively.

HA
M E
T Z
LAB

Trade Mark
Reg. U. S. Pat. Off.

Literature can be obtained from

HA-METZ LABORATORIES, Inc.,
One-Twenty-Two Hudson Street, New York.

CAMPHO

ANTISEPTIC DRESSING
LIQUID-OINTMENT-POWDER

PHENIQUE

Response of Certain Skin Inflamations
To Applications of

CAMPHO-PHENIQUE

Points clearly to the market value of this agent in dermatoses. CAMPHO-PHENIQUE has decided germacidal properties and is also an antipruritic of more than usual power.
In chronic eczemas, attended by irritations, CAMPHO-PHENIQUE applied several times daily will give gratifying relief and help in restoring the skin to a normal state.

Samples and Literature on request.

CAMPHO-PHENIQUE LIQUID, small size 30c, large size $1.20
CAMPHO-PHENIQUE POWDER, small size 30c, large size 75c

Campho-Phenique Co., St. Louis, Mo., U. S. A.

New Prices on Merz Santal Comp. Capsules

DISPENSING PHYSICIANS CAN BUY OF US DIRECT

10 Minim Elastic Capsules, box of 100
Also boxes of 12 and boxes of 24
5 Minim Perles .....bottle of 36
5 " " .....bottle of 500
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Unsurpassed for happy effect in Urethritis, **Cystitis**, Prostatic Troubles, difficult micturition, etc.

PRICES AND SAMPLES UPON APPLICATION

THE MERZ CAPSULE CO.
DETROIT, MICH.

Our Advertising Standards

[Continued over from preceding page]

ture and in such form as may parallel a prescription written by a qualified physician who is seeking in the proprietary form elegant pharmacy in place of an extempore prescription.

Products composed of minor botanic remedies in adequate dosage, provided these drugs have a real place in medical literature and are well defined in materia medica, since many thousands of physicians esteem them despite pharmacologic data urged against them.

Minor antiseptics, soaps and toilet articles honestly advertised to both physicians and laymen without false or fraudulent statement; honestly advertised mineral waters and minor purgatives, food products, malt tonics, etc.

Service Guarantee to Readers

IF YOU HAVE ANY UNSATISFACTORY DEALING WITH AN ADVERTISER IN THE AMERICAN PHYSICIAN, WRITE US THE PARTICULARS AT ONCE.

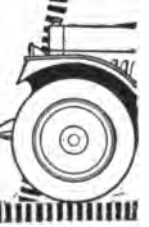
WE WILL IMMEDIATELY TAKE THE MATTER UP WITH THE ADVERTISER AND SEE THAT THE ADVERTISER EITHER MAKES GOOD, OR HIS ADVERTISEMENT IS ELIMINATED FROM THE AMERICAN PHYSICIAN'S PAGES.

EMCO
Automobile Oil

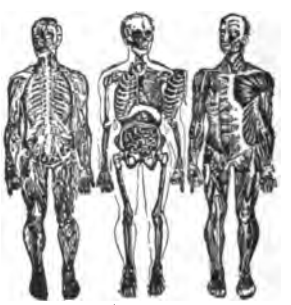
A physician gets no time to figure the cost of operating his car, but if he is paying big repair bills, depend upon it poor lubricating oil has something to do with it.

Keep your car at your service by using EMCO Automobile Oils, the pure mineral oil, refined from famous Bradford Crude

Emery Manufacturing Co.
Main Street
Bradford, Pa.
Lewis Emery, Jr., Prop



Your Knowledge of Anatomy



Cost you hundreds of dollars and months of intensive study. But much is forgotten after a few years' practice.

Your knowledge a little stale? Regain it quickly with a

Pilz Anatomical Manikin

Life-size—5 ft. 5 in.

Built in hinged layers, showing every member, organ, muscle, bone, vein, artery, nerve—nothing could be more complete.

Female $18.00
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Dr. Minder's Manikin—20 in. x 8 in.
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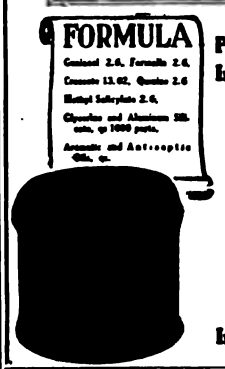
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PNEUMO-PHTHYSINE
In Analysis

In Synthesis

Pneumo-Phthysine

The best remedy (Pneumo-Phthysine) misapplied, may defeat the combined skill of all who have contributed to its success. More especially in the treatment of pneumonia, the unconquered foe of medical science.

If PNEUMO-PHTHYSINE has failed you, there is a reason.

How to Apply in PNEUMONIA

Apply a thin layer, thickness of silver dollar, to cheesecloth, cut to cover front of chest, including supra-clavicular space and reaching below to and including the true ribs. Do not heat plaster above temperature of body. Excessive heat hastens the evaporation of Guaiacol, so efficient as an antipyretic. Heat plaster to desired temperature by first applying to cheesecloth and then holding it over radiator, lamp, etc.

The liquid contents of application soon disappear through the absorptive property of the skin. The recurrence of pain or high temperature demands more frequent dressings.

Pneumo-Phthysine Chemical Co.
Chicago, Ill.

Unless
this is especially marked and a subscription bill enclosed, it is NOT intended for you.

NOTE—If you have just recently remitted and a bill is inclosed here, please ignore it. With a subscription list as large as ours it takes a few days for a subscription to pass through, be finally credited and the stencil transferred from one classification to another.

The Earth Has Gone Again Around the Sun

Since last we clipped an envelope here. But we still have the same purpose—to give you the best, the most valuable medical journal service for use in your every-day practice it is possible to give.

And we still want that $3.00 for two years (or $2.00 for one year, if you prefer)—that pays us for that service and generally makes the wheels go 'round.

And we still want to thank you, most heartily, Brother, for your usual prompt attention. Here's the envelope—just slip $3.00 in it, check or bills (we take all risk) and send it along.

And here's the best of success to you in your good work.

C. C. TAYLOR.

Sal Hepatica

THE STANDARD SALINE LAXATIVE

Samples on request

Bristol-Myers Co.
NEW YORK



GRIFFITH'S COMPOUND MIXTURE

of Guaiac, Stillingia, etc.

A Powerful Alterative — Composed of Guaiac, Stillingia, Prickly Ash, Turkey Corn, Colchicum, Black Cohosh, Sarsaparilla, Salicylates of the Alkalies, Iodide of Potassa and other well known remedies, combined in such a manner that it is tolerated by all patients suffering from Rheumatism, Gout, Lumbago, Neuralgia, Sciatica, etc.

Prescribe it for "That Stubborn Case"

To Physicians only—we will upon request, send a regular eight ounce bottle ($1.25 size), for trial, upon receipt of 25 cents for express charges.

Griffith's Rheumatic Remedy Company
Newburgh, New York

Pond's Extract

For muscular sprains and strains a prompt and grateful means of relief is the application of a thick compress, well wet with Pond's Extract, over or next to which a hot-water bottle or hot plate is kept with the object of maintaining moist heat for several hours.
The benefits are quickly shown by removal of pain and soreness, the reduction of swelling and an early restoration of the injured muscle to a normal condition.
POND'S EXTRACT CO., New York and London

Muscular Injuries

REGULIN

Presents a new principle in the conquest of chronic constipation that of treating the bowel contents rather than the bowels themselves. Corrects the physical condition of the intestinal mass — restores its normal bulk and softness—and the bowels resume their natural functioning. REGULIN is a true bowel corrective.

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 240

The Management of Infected Wounds

An open wound is always an unknown quantity—until it has healed sufficiently to remove all danger of infection.

Every physician is familiar with the simple cut or laceration, which, harmless at first, suddenly takes a "turn for the worse." Everything will be going well at one dressing, and at the very next, a few hours later, the wound may show a vastly changed appearance. The margins will be red and angry, the tissues dark and congested, and the whole wound bathed in an offensive yellowish-gray discharge. Pain and soreness will be increased, and the patient soon give signs of systemic absorption. Only the doctor knows the gravity of the situation and the struggle before him.

Everything depends on the thoroughness and efficiency of the treatment employed. General supportive measures are necessary, but it is the local care and treatment that mainly determine the outcome.

Cleansing is all-important, but it is never wise to drench the tissues by excessive washing or irrigation. To do so is to rob them of the blood and lymph essential to normal defense and repair—*to contribute directly to the progress of the infectious process.* Therefore, while it is always desirable to clean the wound well, and remove all pus and detritus, this should never be continued to the point of weakening or injuring the tissues.

The Application of DIOXOGEN—A successful line of procedure is to wash out a wound with normal salt solution until all discharge or loose fragments are removed. Then Dioxogen should be injected into the wound, care being taken to reach every part. The resulting effervescence means the liberation of pure, active oxygen, not only the most potent of antiseptics and germicides, but also the most powerful aid to normal tissue processes. After each syringeful of Dioxogen the foamy mass should be washed away and the injection of Dioxogen repeated until the effervescence in the wound shows marked decrease. While it is usually desirable to remove the frothy debris that may be left after the use of Dioxogen, so free is this antiseptic from any toxic or irritating action, that terminal irrigation after the last injection is seldom necessary.

Indeed, it is usually well not to irrigate the last thing, for any Dioxogen left in the wound slowly gives off its oxygen, and thus acts as a stimulant to normal cell functions.

The efficiency of the foregoing treatment is promptly shown by the marked improvement in every respect—the infectious process is checked, the discharge decreases, the inflammation subsides, the tissues take on a clean, healthy appearance, and healing follows naturally without interruption or delay.

The dependable action of Dioxogen in the treatment of infected wounds—its control of germ activity and pronounced stimulation of the normal processes of repair—with complete freedom from any toxic or untoward effect, have made it the most widely used antiseptic today in the treatment of infected wounds.

The Oakland Chemical Co.
59 Fourth Ave., New York

LIBERAL DOSAGE—MINIMUM EXPENSE

In specializing on Bacillus Bulgaricus Cultures under the scientific guidance of Professor Metchnikoff since 1906 and by constant co-operation and collaboration with eminent medical practitioners, we have arrived at the conviction that adequate dosage is one of the most important factors in the effective application of the Bacillus Bulgaricus to therapeutic purposes. Seven c.c. tubes have brought satisfactory results in cases where long-continued use of tablets showed no improvement whatsoever, and the administration of one ounce or two ounce doses, once or twice daily, gave surprisingly rapid results where the 7 c.c. doses had proved of little benefit, even when administered three to six times daily.

Acting on this scientific conclusion, we have worked out the problem of LIBERAL DOSAGE—MINIMUM EXPENSE. We have always maintained, and still steadfastly maintain, that it is unscientific and even dangerous to dispense culture media in bulk. Our reason for this has been clearly set forth for years on page 6 of our Physician's List. We have, therefore, introduced the "small drink" dose in individual, one-dose bottles.

THE BIG THREE

(ACTUAL SIZE)



"PINEAPPLE CULTURE, METCHNIKOFF." A two-ounce dose of Culture A in each bottle. Suitable for all cases of autointoxication, except Diabetes, or where fruit juices are counter-indicated. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.00.



"WHEY CULTURE, BACILLUS BULGARICUS, METCHNIKOFF." A one and one-half ounce dose in each bottle. Suitable for colon injection and all cases where a fruit juice medium is not desired. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.25.



"BULGARICUS, BOUILLON, METCHNIKOFF." For Diabetics. A one and one-half ounce dose of Culture D in each bottle. The most valuable therapeutic agent for the treatment of Diabetes known to medical science. Price per case of one dozen bottles, delivered to patint's address, anywhere east of Mississippi River. $2.25.

All the above products can be obtained at the leading druggists or will be delivered at patients' address without extra charge.

Literature and Samples on Request

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April THE 1922

AMERICAN PHYSICIAN

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The Family Physician is the Health Factor of Most Fundamental Importance

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BOSTON MEDICAL LIBRARY JAN 5 1923

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The All Important Cancer Problem

PROGNOSIS AND CHOICE OF
Operation in Cancer of the Stomach
(*page 267*)

Why Does Cancer Rage
AND THE PEOPLE IMAGINE THAT VAIN THINGS CURE?
(*page 263*)

Is Cancer of Parasitic Origin?
Until the Cause of Cancer Has Been Discovered
We Work in the Dark (*page 270*)

Some Factors in Success That Are Often Forgotten
(*page 289*)

Full Contents on Page 252

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Atophan
TRADE MARK



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Here's where genuine Atophan is manufactured by a special process completely precluding the possibility of unpleasant empyreumatic admixtures

This means a still further improved Atophan for your cases of Rheumatism, Gout, Neuralgia, Neuritis, Sciatica, Lumbago and "Retention" Headaches.

Ample trial quantity and literature from

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150-152 Maiden Lane New York

AN IDEAL ARSENICAL

SODIUM DIARSENOL

SODIUM ARSPHENAMINE

Sodium Diarsenol marks a distinct advance in syphilology. It dissolves very quickly in water, giving a solution ready for immediate injection. No addition of sodium hydroxide is necessary. It has the therapeutic advantage of arsphenamine with the solubility and convenience of neoarsphenamine, and gives clinical results equal to or better than either of the two latter compounds. Neutralization with alkali being obviated, there is no undue handling and consequent decomposition of the highly reactive solution.

SODIUM DIARSENOL has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in "New and Non-official Remedies."

Manufactured by Diarsenol Laboratories, Inc., Buffalo, N. Y., under license from The Chemical Foundation, Inc., under patents 1059983 and 1078135.

Samples and Literature on request

DIARSENOL COMPANY, Inc.
BUFFALO BOSTON ATLANTA

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 316

MORE people die from pneumonia than any other disease.

Approximately 25 out of every 100 cases end fatally. Dr. Gustav Goldman has demonstrated that at least twenty of these twenty-five deaths may be prevented by employing Bacterial Vaccines.

Why delay and chance a fatal termination?

Dr. Gustav Goldman's article appeared in American Medicine, March, 1921

Bacteriological Laboratories of
G. H. SHERMAN, M. D.
DETROIT, U. S. A.

Nervous debility, nervous exhaustion, and all asthenic affections of the nervous system, so prevalent to-day, will respond to treatment which will replenish the reduced mineral reserves of the system and supply the necessary phosphorus to restore degenerated nerve cells

FELLOWS' SYRUP OF THE HYPOPHOSPHITES,

"The Standard Tonic for over fifty years,"

contains the basic elements to ensure normal metabolism, together with the dynamic agents, quinine and strychnine, which make it a true stabilizer of shaken nerves

Samples and Literature sent upon request.

FELLOWS MEDICAL MANUFACTURING CO., Inc.
26 Christopher Street **New York, N. Y.**

SYR. HYPOPHOS. FELLOWS' COMPOUND SYRUP OF HYPOPHOSPHITES COMP. FELLOWS

Vol. 27, No. 3, Published monthly—The Taylors; C. C. Taylor, Publisher; Mrs. J. J. Taylor, Ed. Mgr. Entered as second-class matter Feb. 13, 1896, at the post office at Philadelphia, Pa., under Act of March 3, 1879. The American Physician, "Most Widely Circulated Medical Monthly," continuing the quarter century of distinctive service of
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MEDICAL COUNCIL

Serobacterin Immunity

Only One

"There is only one concern in this whole country which puts out a rubber cap on their containers that will not absolutely ruin a platinum needle."

"Thin rubber of the best quality is all that is needed to cap these containers."

(*The Medico, Nov. 1921*)



The Mulford vial and cap described above.

Is a development of the researches of Besredka and Metchnikoff, in the Pasteur Institute, Paris.

Serobacterins are suspension of killed bacteria, with their corresponding antibodies.

They produce both passive and active immunity.

The ***Passive Immunity*** is conferred immediately by the specific antibodies carried by the serobacterin and promptly liberated when injected into the body.

The ***Active Immunity*** follows when the body cells of the patient have responded to the stimulation of the injected bacteria, by producing additional antibodies which replace the antibodies of the serobacterin and remain for a considerable period.

The following Serobacterins are available from the Mulford Laboratories:

ACNE SEROBACTERIN	STAPHYLO-SEROBACTERIN
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PNEUMO-SEROBACTERIN	TYPHO-SEROBACTERIN MIXED

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51843

Mulford

THE PIONEER BIOLOGICAL LABORATORIES

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 316

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EVERY PHYSICIAN SHOULD READ

THE JOURNAL OF INTRAVENOUS THERAPY

A sixty-four page Journal, containing original articles, reprints and abtracts relative to Intravenous Medication from foreign and domestic medical journals. The most comprehensive compilation on the subject, including laboratory and clinical reports.

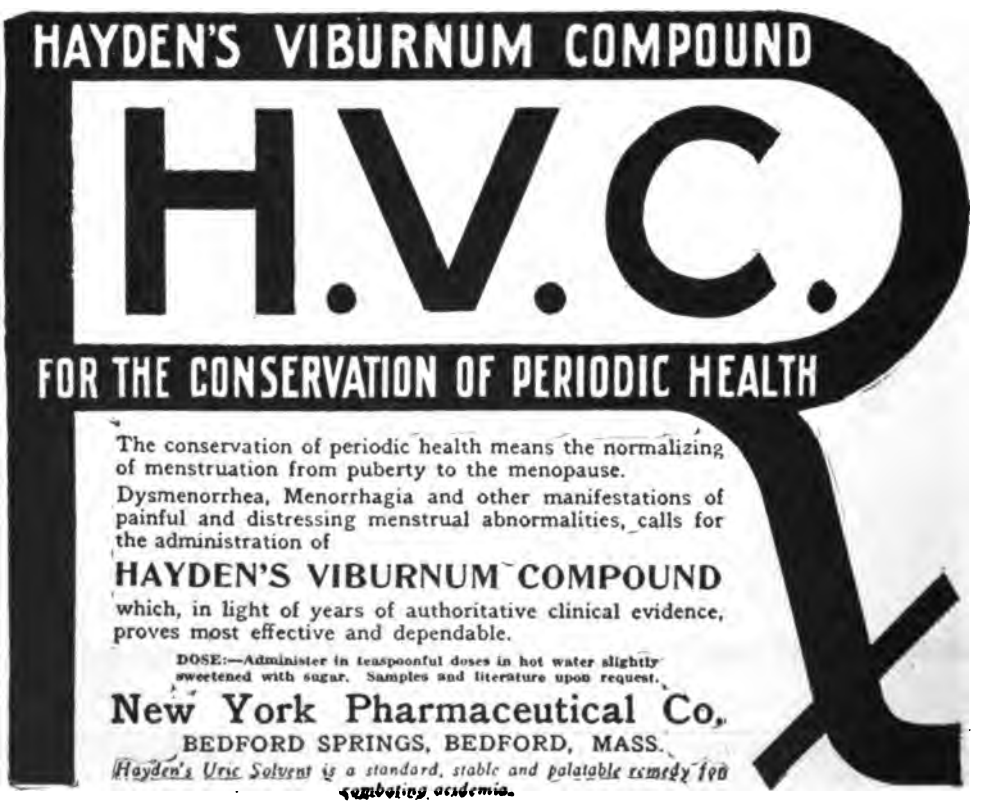
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100 WEST 21ST STREET
NEW YORK, N. Y.

Producing Ethical Intravenous Solutions for the Medical Profession Exclusively.


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LAVORIS
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The
HEALING ANTISEPTIC
COMPLIMENTARY SUPPLY TO PROFESSIONAL MEN ON REQUEST
WE CLAIM IT HAS UNUSUAL MERIT AND OFFER THE PREPARATION AND FIFTEEN YEARS OF PHENOMENAL SUCCESS AS EVIDENCE.
Combining with well known ANTISEPTICS in pleasing form the Therapeutic properties of
ZINC CHLORIDE
LAVORIS CHEMICAL CO. MINNEAPOLIS, MINN.


HAYDEN'S VIBURNUM COMPOUND
H.V.C.
FOR THE CONSERVATION OF PERIODIC HEALTH
The conservation of periodic health means the normalizing of menstruation from puberty to the menopause.
Dysmenorrhea, Menorrhagia and other manifestations of painful and distressing menstrual abnormalities, calls for the administration of
HAYDEN'S VIBURNUM COMPOUND
which, in light of years of authoritative clinical evidence, proves most effective and dependable.
DOSE:—Administer in teaspoonful doses in hot water slightly sweetened with sugar. Samples and literature upon request.
New York Pharmaceutical Co.
BEDFORD SPRINGS, BEDFORD, MASS.
Hayden's Uric Solvent is a standard, stable and palatable remedy for
combating acidemia.

STYPTYSATE

THE REMEDY FOR HEMORRHAGES

Not Subject to Narcotic Law

The least disappointing remedy in **uterine hemorrages.** Very often acts where Ergot and Hydrastis fail. Dose gtts.x-xv. Prescribed in 10 c.c. bottles. Sold on prescription only.

A Few Short Clinical Reports Will Prove Interesting

W. H. Age 23. Menstruated regularly up to a year ago. Twice then every 10 days—profuse hemorrhage. After Styptysate, duration and quantity of flow considerably lessened.

T. V. Age 25. Menses every 3 weeks, very profuse during the last months—Styptysate reduced the amount of flow to normal quantity.

L. A. Age 28. Menstruated regularly, duration 5 days. However, for the last several months menses were irregular, and the flow, lasting 8 days, was very profuse. Styptysate shortened the periods and reduced the flow.

E. T. Age 28. Menstruated first at the age of 14. Menses regularly up to about 10 weeks ago, when they appeared every 2 weeks—accompanied by severe backache. After the use of Styptysate the frequency of the periods was lengthened and the action of the drug regarding the amount of the flow was surprisingly prompt.

A. Sch. Age 24. Menstruated formerly regularly; since 3 years very profuse flow lasting 3 days and appearing every 2 weeks. The hemostatic action of Styptysate manifested itself after every administration in a surprisingly favorable manner.

A. W. Age 35. Menses appear regularly, but are of long duration, the last having persisted for 3 weeks. Styptysate treatment for 3 days limited the flow to 4 days. Lasting result.

T. M. Age 49. Menses every 4 weeks, but very profuse flow of 8 days' duration. After Styptysate medication a lasting limitation of the flow to from 3 to 4 days.

In all these cases, in spite of the difference in the ages of the patients, the disturbance apparently was a functional one only, as the gynecological status was normal, judged from the pathological point of view. However, the excellent results obtained led Krummacher to employ Styptysate also in pathological conditions. In particular does he mention a case of myoma, the size of a child's head, in a 43 year old virgin. Frequent and very profuse hemorrhages—lasting 8 days or longer—were not influenced by Hydrastis or various Ergot preparations, but were favorably acted upon by Styptysate, so much so in fact, that the patient herself described the action of the drug as unbelievable. In this case, Styptysate was given in doses of gtts. XV t. i. d. and limited the hemorrhage, moderate in amount, to 3 days. It is of importance to observe that Styptysate does not have any influence upon heart action or respiration, although it has occasionally been given in massive doses (up to gtts. XXXV single dose). The gynecologist as well as the obstetrician and general practitioner will, therefore, find in Styptysate a safe, reliable and active hemostatic.

Samples and literature on request

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One-half Dozen Bottles of STYPTYSATE for $2.50

(Regular Price $3.75)

Fill out, detach and mail the corner coupon with N. Y. draft for $5.00, and we will send you one dozen bottles of Styptysate.



ERNST BISCHOFF CO., Inc.

85 West Broadway

New York

Ernst Bischoff Co., Inc.
85 W. Broadway, New York

For $2.50 remittance enclosed send one-half dozen bottles of Styptysate as per your Introductory Offer.

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.....

Address.....

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Contents

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Editorials

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CHINOSOL

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The American Physician

Vol. 27 April, 1922 No. 4

Why Does Cancer Rage

And the People Imagine That Vain Things Cure?

PLAIN TALK is needed in the cancer menace, for the fact that it has become a menace to public health may not be gainsaid, despite the work of commissions, research foundations and special societies. We say plain talk is needed *in* the cancer menace, even though the sentence is a bit awkward, because this article is addressed to physicians who are actually *in* the cancer fight. We approach the cancer problem too often by indirection, viewing it sociologically, anthropologically and every other way, talking *at* the subject, or *about* it, devising campaigns and calling congresses, whereas it is a fight, a scavenger job, and a human clean-up work that demands rolled-up sleeves on the part of actual workers, not talk by theorists.

We do not know the cause or causes of the more serious types of neoplasms; and we knew little about the causes of malaria until after physicians went to the swamps and investigated malaria right among the malarious. We never learned how yellow fever was distributed until after a few heroic physicians lost their lives in the midst of epidemics. A fireman does not investigate the cause of a fire until after he quenches it, when it is small, if possible; then he makes his investigation. Cancer is becoming a conflagration, with the evidence of original causes burned up. Our job is to attack instantly every little cancer fire, and *then* investigate.

The writer has been *in* this fight, and he wishes to record some actual experiences and express his views, even at the risk of offending some of his colleagues. This is no time to be touchy.

Some Pathology

Years ago the writer made sections for the microscope of practically every known form of neoplasm affecting human beings, and he became somewhat skilled in the laboratory diagnosis thereof and was called upon to examine many specimens. Surprisingly few of them were characteristically malignant in appearance, hence were not treated surgically, as they ought to have been, for many—very many—*became* malignant and the patients ultimately died.

Physiologic activity (Da Costa) favors development of sarcoma and benign tumors; physiologic decline favors cancer. We wish to add to this postulate that physiologic decline develops cancer from apparently benign tumors, in a surprisingly large number of cases, and the only safe rule is to remove benign tumors, if at all possible, *before* physiologic decline shows itself. The outstanding cause of malignancy, we venture to assume, is physiologic decline, either from ill health, poor nutrition, bad environment, defective personal or public hygiene, defective inheritance, debilitating habits or occupations and advancing years. This physiologic decline may induce arteriosclerosis, tuberculosis, cancer, and what not. At all events, we may, very logically, assume that physiologic decline is the danger line and may well be the *factor* in cancer that demands our attention, whatever we may ultimately determine as the more immediate cause of malignancy.

Run the whole neoplastic gamut—fibroma, lipoma, chondroma, osteoma, leiomyoma, keloid, neuroma, glioma, angioma, lymphangioma, sarcoma, endothelioma, papilloma, adenoma, epithelioma, cysts, carcinoma and even dermatologic and syphilitic growths—and they are *all* dangerous neighbors to adjacent tissues. Any day they may "start something," the end of which no man can foretell, and "the day" is apt to be that one wherein physiologic decline commences. Don't wait for that day; get busy now!

Physicians should scent cancer afar, watching every sort of neoplasm that does not promptly yield to non-surgical treatment. Don't let the patient decide; decide *for* him. Don't fool with chronic dermatologic or superficial lesions; get busy on the case. Make your patients submit to adequate examinations. Let them know you are guardians of their health and insist on their coming to see you at the first incidence of any "swelling" or abnormal appearance. Doctor, you will reduce the mortality from cancer

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 316

if you look on it as you do the fire menace and respond at the first alarm. Laboratory findings are all right in their way, but you do not wait for the laboratory report before administering diphtheria antitoxin. The laboratory may tell you much as regards neoplasms—usually too late. That was the experience of the writer, and it was his further experience that a negative report on malignancy lulled many a patient and his physician to sleep. That is a sad mistake in practice.

Non-surgical Treatment

When the X-ray was first added to our armamentarium, the writer was placed in charge of what was then an up-to-date laboratory, and one of his duties, day after day, was the irradiation of cancers and alleged cancers—many hundreds of them. Pardon a non-flattering statement, but we were amazed at the lack of diagnostic acumen on the part of the great majority of physicians who sent in these cases; that is, as regards the diagnosis of neoplasms and dermatologic lesions. Perhaps conditions have bettered somewhat since, but they are far from what they ought to be. The proportion of neglected cases was startling, and we hear similar reports from X-ray operators of today, who talk freely to an editor, but who fear that they will anger the profession if they write as they talk in private. Gentlemen, this should not be—this lack of familiarity with the appearance and clinical significance of neoplasms on the part of so many practitioners. Herein is one cause why cancer is on the increase, and it is also the fundamental reason why so many neoplasms gone beyond the stage of successful surgical removal fall into the hands of the man who is doing his level best with the X-ray, radium and other electrical and physical measures to do what he should rarely be called upon to do, *viz.*, treat with these measures cancers that should have gone to the surgeons long before.

Two other factors must be mentioned here: First, the fact that, in the overplus of specialists we have a smaller proportion of the profession who regularly see neoplasms and learn how to diagnose these cases by experience; second, too many X-ray operators, etc., have scant knowledge of pathology and diagnosis. Many a country doctor would recognize with a glance and his trained sense of smell a case that gets by the narrowly trained specialist.

Non-surgical treatment has its place, and that place should be determined by the *surgeon* who examines the neoplasm, not by the patient or by the specialist in physical "modalities," as they are rather fantastically called.

Statistics and What Passes for Them

Mortality statistics on cancer are fairly accurate, for the terminal state of cancer is so plainly labeled that few mistakes are excusable or even exist, and these cancer statistics are very, very bad—are getting more alarming year by year.

Record of cancer incidence (morbidity statistics) is marked by its absence. The writer has seen what passes for statistics of cancer morbidity, but has little confidence in most of these data. It falls to his lot, however, to record "incurable disease" cases, a large proportion of them being reported as cancer. A few deductions from these reports may be illuminating. Cases are reported as cancer—many of them—that investigation shows not to be cancer, nor even neoplasms of any type. Some are enlarged spleen, a few prove to be cirrhosis of the liver, still more are abscesses. Ignorant physicians make some of these erroneous reports, but diagnosis of internal cancer is often difficult and capable men may be misled. It seems hardly believable, but it is a fact that many reports of cancer are made on the basis of the patient's own statement. Some persons believe they have cancer because some quack told them so, or they have internal disease and cancer "runs in the family," and a few drug addicts will tell an honest physician that they have cancer and will cite alleged hospital examinations, etc., thus deceiving the physician. Erroneous reports are also often due to hasty examinations and snap-shot diagnoses.

The really serious matter is this: These incurable cases of cancer are, to a large extent, neglected cases, the neglect usually being chargeable to the patient himself, but too often to his physician. Not one-third of them were ever examined by a surgeon, this being often due to residence in remote communities, far from hospitals or specialists in surgery. Many of these incurable cases should have been taken early in hand, but were not. It seems a pity that *all* cases of cancer, or suspected cancer, are not reportable by law. Few physicians have many such cases and it would be little additional burden to report them to departments of health.

Wherein the Patient is at Fault

We have been gently scolding the medical profession, but the people at large need a regular tirade on this subject, for there is where the principal fault lies. Most physicians are capable, even though sometimes neglectful, especially of cases they know they cannot cure. Their early cases of cancer they take promptly in hand, usually referring them to a surgeon, but the advanced cases of cancer, no longer operable, they are inclined to let drift. The result is that the incurable cases of cancer usually appear on the reports as under the care of physicians of less capability, some of them quacks.

In practically every community of size, one or more men secure reputations as cancer doctors, and the incurable cases the capable physicians let slide drift into the hands of these men. Not only that,

but every early and curable case they can scare into avoiding the knife go to these men, who use cancer pastes and every vain thing exploited by quacks and semi-quacks as "good for cancer." No wonder the deaths from cancer are on the increase.

Cancer as a Public Health Concern

The propaganda in tuberculosis control had an immense influence in teaching the people how to prevent and avoid tuberculosis and how to take care of themselves if they contract the disease. Not only that, but the same work went a long way in awakening physicians to an appreciation of the tuberculosis menace and how to prevent and control the disease in their own practices and communities. Perhaps a cancer propaganda would be just as useful.

People need to be taught that, despite the fact that we do not know the immediate cause of cancer, we do know sufficient to guide us in preventive measures. Also we definitely know the urgent need for immediate treatment of *all* neoplasms. We know definitely that certain long-exploited treatments for cancer are ineffective and that the important thing is to realize that keeping the body up to par, removing all sources of local irritation, avoiding excesses, etc., will prevent the development of many cases; and that, after a neoplasm develops, it should be given *immediate* attention, operative if indicated. We should help in freeing the minds of the people from the fear of the knife in skilled hands, and we should warn against the vain things that not only fail to cure cases, but may make curable ones incurable.

We need to know the facts as regards the incidence of cancer; the disease should be reportable, and then the health authorities would be in position to study cases and arrange for the care of those not in professional hands. In many instances physicians would welcome aid in the diagnosis of obscure cases, and this aid could be arranged for by co-operation between health authorities and hospitals. Many useful people in the initial stages of cancer, or developing neoplasms that may become malignant, might be saved to many years of usefulness by such co-operation. As it is, many of them are poor and their cases are neglected. Who knows but that they may leave an impress upon coming generations.

Be all of these things as they may, we need to take a part *in* the cancer fight; get out as cancer scavengers on a clean-up, rolling up our sleeves and putting our hearts into the work.

The scratch of a lion's claw is almost as deadly as his bite, for he never cleans his nails, and he always carries under them rotting meat that is rank with deadly germs. Flies and water bugs do the same thing on a smaller scale; and, "Don't forget," says the U. S. Public Health Service, "that they never wipe their feet."

When Is Alcohol a Stimulant?

SURELY from the therapeutic point of view, and having no bearing on the problem of national prohibition, the recent vote taken by the American Medical Association reveals the fact that there are many competent physicians who believe that alcohol, at least under certain circumstances, is a stimulant in therapeutic doses.

Campbell, of London, for several years president of the British Society for the Study of Inebriety, does not agree with the dictum that "alcohol is *always* a narcotic and not a stimulant." That alcohol may act as a narcotic he considers as proved, and he agrees with Wilks that in health it is commonly a sedative. He has no great faith in alcohol as a therapeutic agent and believes great harm comes from its use as a beverage and often as a medicine, but in states of exhaustion he contends, alcohol in proper dosage has a temporary reviving effect, especially in a person advanced in years who is slowly recovering from a severe case of influenza.

Probably the fair statement to make is this: In states of health, alcohol, while temporarily stimulating in the same way as ether is, has as its main effect narcosis or sedation, according to the dose; but, as regards certain conditions of disease, animal experimentation which shows alcohol to be a narcotic in the healthy subject does not negative clinical experience to the effect that in exhausting disease it may possess properties of value.

Practically considered, competent physicians are little inclined to administer alcohol except to patients so ill that they are, or ought to be, confined to bed.—T. S. B.

What Is the Matter With Endocrine Therapy?

CUSHING AND OTHERS have been indulging in some probably needed destructive criticism as regards therapeutic claims made for the endocrines, but this should not blind us to the fact that in the endocrines we have a most promising line of rational medication, which has been grasped by Weil, in his recent textbook, better than by our popular American writers on the subject.

After various experiences with endocrine products in actual practice, with some successes and more failures, we are impressed with the need, not only for a better scientific basis for prescribing them, but for more standardization of the preparations on the market. It is inevitable that poor products are common until after exact methods for their standardization are perfected, and this through no fault of the commercial interests placing these preparations before the profession. A beginning has been made in this direction, but we incline to the view that various glandular products are brought into reproach from the fact that,

as commonly secured, they are not of established potency and are not physiologically standardized, either qualitatively or quantitatively, the result being that practitioners unwittingly use inert material all too frequently.

It has been proved, so we are told by the English, that thyroids of animals raised near to the sea contain more iodine than do the glands of those raised in the interior; and if this is true of the thyroid, some parallel factor may inhere in the case of every other endocrine organ, and that the method of selection of material is as important in endocrinology as in the selection of plants used medicinally.

Reviving Janet's Method in the Treatment of Gonorrhea

REPEATED hot injections of the urethra, advocated by Janet, dropped out of sight because of the time consumed, copious injections of various heated solutions being made at frequent intervals, but since genito-urinary work seems to be drifting more and more to hospitals and dispensaries, the method is being revived.

There is, now, more or less modification of Janet's method, but friends of the procedure assert that temperature is of prime importance, the chemical composition of the solution used being a matter of secondary importance. The temperature should not be less than 102 F., and it may be run up to 108 F., as the urethra is fairly tolerant to heat carefully applied. A weak permanganate solution is commonly employed, and some use the Valentine irrigator in making the injections. The method is said to be free from any untoward results and is reported as giving excellent results.

For many years we have encountered foreigners, who under our care always heated the injections prescribed and who consistently objected to strong and astringent injections, and their cases turned out well. These Hungarians, Slavs, Greeks and others, explained that they were accustomed to warmed injections in their own countries. Some of these men go to bed for a week or ten days, when they have an attack of gonorrhea, treat themselves, as indicated, and we understand they secure good results.

Perhaps we have been neglecting a good thing, and we are not so doubtful of the genito-urinary sense of some of these foreigners as to call in question the validity of their reasoning. Perhaps they are right.

The perambulating dental clinics of the U. S. Public Health Service have proved that poor health makes poor chewing, and that poor chewing makes under-nourishment and poor health. Particularly it urges that the "six-year" molars" of children should be watched. These are not the last of the first teeth, but the first of the last, and once gone, they can never be replaced.

COMING IN NEXT ISSUE

Diagnosis of Blood Diseases by the General Practitioner. First seen by the General Practitioner; on His Diagnostic Ability Depends the Remaining Few Years of the Patient's Life.
By D. A. Smith, M.D.

Undoubtedly correct in stating that "the general practitioner does not diagnose the blood diseases as often as he should," it was the author's happy thought to write this timely and well-planned paper on all important blood dyscrasias and allied disorders, covering them admirably and leaving out, at the same time, burdensome details and dry technicalities, and presenting the subject in an interesting and readable form.

Medical Diathermy.
By Elnora Cuddeback Folkmar, M.D.

Medical diathermy is not a panacea for all diseases. Yet its indications are many; and it is a most excellent adjuvant to many other therapeutic measures. In many cases it is the indicated therapeutic agent par excellence. For diathermy is heat, and heat is necessary to life, to health, to function, to repair in injury, and to the restorative processes when disease is present. And diathermy furnishes the needed heat where it is wanted and when it is wanted, without taxing the heat-regulating forces.
This first installment goes thoroughly into definition, essential equipment, fundamental principles, technic and therapeutic indications. We hope you will get as much of a stimulus as we did from reading Dr. Folkmar's excellent paper.

Therapeutic Value of Ice Bag in Acute Inflammatory Conditions. Brings Out New Points and Widens Field of Use of This Old Stand-by.
By A. J. Colton, M.D.

The use of cold in attempted reduction of elevated temperature is as old as man. The feverish animal instinctively plunges into cold water to obtain relief just as the feverish human applies the wet handkerchief to relieve headache. Still Dr. Colton brings out new and interesting points on the utility of this excellent remedy. You will agree with us that it is a paper worth while reading—and you will be surprised at the extent of the use to which you can put this good, old-fashioned ice bag.

Footlights on the Feet. No. Two Anatomy.
By Charles Cross, M.D.
Dr. Cross says the most needed service on feet in the doctor's office to-day is a knowledge of prophylaxis—the prevention of foot ailments. This particularly applies to prevention in children. A service which can be rendered in the office and with home treatment and periodic observations. The practitioner qualified and equipped to render this service is assured much practice now neglected.

By Charles Cross, M.D..

Report of a Case of Toxic Encephalitis.
By C. T. Knuckey, M.D., and Lanning E. Likes. M.D.

An interesting case with history and symptomatology, and some unusual features.

The Greedy Colon and Auto-Intoxication Case Report.
By Norris W. Gillette, M.D.

If your patient were constipated would you excise his colon? There are good surgeons, with good reasons, that do. Read Dr. Gillette's paper and see whether you would do it or not.

Dibromin, An Ideal Moist Dressing.
By David Yandell Roberts, M.D., F.A.C.S..

The author has used dibromin in more than eighty cases of surgical infection in the past year, with uniformly good results. It is an active germicide, at least equal to chlorine compounds, and has met all the requirements of a surgical bactericide because of its ease of preparation, its efficacy, and the absence of irritation, odor and color. Particularly has it proved ideal in those cases requiring irrigation and where a continuous moist dressing was desired.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like seabeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Prognosis and Choice of

Operations in Cancer of the Stomach

Danger of Unthinking Routine Treatment of Dyspepsias

PRACTICAL SURVEY FOR THE GENERAL PRACTITIONER OF AN IMPORTANT SUBJECT

By A. WIESE HAMMER, M.D., F.A.C.S.,
218 South 15th Street, Philadelphia.

Vital Importance of Early Diagnosis

Cancer of the stomach usually means death. A very early operation—seldom possible because the condition is usually discovered when it is well developed—offers a dubious chance for a radical cure; but operation at any time often prolongs life and mitigates suffering. The various phases of the question involved, the medical and surgical aspects of this all-vital problem are deftly and comprehensively discussed by Dr. Hammer in this scientific but practical paper.—EDITORS.

THE PROGNOSIS in cases of cancer of the stomach is a matter of much varying opinion. The choice of operation allows of wide interpretation, because this preference depends so largely upon the location, the extent and the duration of the growth among other debatable factors. So that a consideration of the subject from these viewpoints would appear a *desiratum* in surveying the contradictory opinions that almost daily burden the medical press.

For obvious reasons, therefore, the subject matter of this contribution records the views and details the experiences not so much of the general surgeon or of the occasional operator in this important field—rather the text bears the imprint of authority because the data that it offers is the review of the practical knowledge gained through the observations of the best abdominal surgeons in this country and abroad.

The Medical and the Surgical Problem

As there is no medical treatment of cancer, surgery offers the only chance of relief and the only chance of cure. The physician can only be of service when the case is too far advanced for interference on the part of the surgeon, or where operation is declined.

And yet, in the face of hopeless obstacles, the late James Tyson and also William Osler proved that much could be done to mitigate the suffering that the dread malady had inflicted upon its victim. The late Abraham Jacobi obtained almost unbelievable results from his own method of administering methylene blue and, more recently, L. Duncan Bulkley, member of the American Association for Cancer Research, has caused almost endless controversy in claiming that cancer is the result of "constitutional factors," and can be influenced favorably by diet. Although an authority upon the subject, his recent work has brought out much debate because his teachings, it is asserted, are against the early and radical surgical treatment of cancer.*

Cancer Primarily a Local Condition

There is much evidence to prove conclusively that cancers that are exposed to view, such as cancer of the penis, tongue and breast, are first purely local and when they are energetically and early attacked by the surgeon, allow the patients to live happy and comfortable lives after the removal of the offending neoplasm.

What is true of these cancers is equally true of cancer of the stomach, only that in the latter the diagnosis is, as a rule, not made sufficiently early to allow of the same thorough and complete ablation of the malignant neoplasm. If so-called "dyspepsias" were not allowed to persist so long, and if consultation between physician and surgeon were more common, an exploratory incision would not infrequently divulge a beginning gastric carcinoma and under proper surgical care and treatment would eventuate in complete and lasting recovery.

The Pros and Cons of Surgical Treatment

Admitting that the nature of the affection is diagnosed at an early stage, what is the surgeon's duty under these circumstances? That will depend upon

*Cancer and Its Non-Surgical Treatment, by L. Duncan Bulkley. William Wood & Co., New York, 1921.

the position and extent of the growth, the presence of adhesions and the amount of glandular involvement.

It is not so many years ago that many excellent surgeons maintained that in gastric surgery, palpation of a tumor through the abdominal wall, at the position of the pylorus, was the signal for little hope and often for little interference.

Admitting that an early diagnosis offers the very best prognosis in cancer of the stomach, the ultimate result of operation is judged at least *three* years after the operation has been performed. When no operation is performed, what is the duration of life under medical treatment alone?

From the elaborate statistics gathered by Robson and Moynihan from the Krönlein and Mikuwicz clinics and Kausch's examinations of the results of non-surgical interference at the Czerny and Kocher clinics, patients with gastric carcinoma have *one* year to live under purely medical treatment. According to most authorities, a year is much longer than the average that such a patient can survive.

Per contra, Moynihan observed at these clinics that the average duration of life after operation, in no specially selected class of cases, was often two years of comparative comfort to the patient, as against a year or less of suffering in patients treated by purely medical means.

Kausch reported an average duration of life of 18.3 months after operation, in patients operated upon at the Mikulwicz clinic; of 18.7 months in Kocher's patients and of 18 months in Krönlein's patients.

Though the chances of permanent cure are slight, nevertheless cases are recorded from the clinics of eminent surgeons who assert that some of their carcinomatous patients got well and stayed well. This leads to the important thought—is it not possible that the pathologist as well as the surgeon was in error, and that these were other than cases of cancer of the stomach?

And yet so brilliant a surgeon as Charles H. Mayo asserted in 1919 that 37 per cent. of such cases operated upon for cancer, are alive three years after the operation of partial gastrectomy, and of 234 patients traced for more than five years after operation, 25 per cent. were alive and well after this long interval. Deaver believes that "we may expect 10 or 15 per cent. of patients treated by gastrectomy to be permanently cured without the liability of recurrence."

It is never to be forgotten that all palpable tumors in the region of the pylorus are not by any means always carcinomatous. It is just in such conditions that an exploratory laparotomy finds its greatest usefulness. According to Lebert, carcinoma is found in 54 per cent. of cases at the pylorus, in 16 per cent. on the lesser curvature, 9 per cent. at the cardiac end, 3 per cent. on the anterior wall, 4 per cent. on the posterior wall, 4 per cent. on both walls (in the same case), 4 per cent. on the greater curvature and in 6 per cent. it is diffuse.

Many surgeons, among them Deaver and Moynihan and the late J. B. Murphy, consider a study of statistics for benign diseases of the stomach in the light of preventive operations for cancer. Thus, in 1920, Moynihan reported 835 operations, with 12 deaths or a mortality of 1.4 per cent. Deaver reported in 582 operations between the years 1908 and 1920 inclusive, 28 deaths, a mortality of 4.8 per cent. The Mayo Clinic, 1915 to 1919 inclusive, 3480 cases, 53 deaths, a mortality of 1.5 per cent. For as Kocher so aptly remarks: "The majority of practitioners do not sufficiently realize what brilliant results are to be obtained by operative means in chronic affections of the stomach commonly known as gastric catarrh. Not only can the numerous dangers of ulcerating affections of the stomach such as hemorrhage, perforation, and transition into cancer be prevented but the disease and its results may be so rapidly and certainly cured that the medical treatment of obstinate cases must be put in the background. The patient does not require to pay any further attention to the nature of his food. The pain in the stomach has disappeared, likewise the vomiting. The bowels have become regular. Repeated investigations of the gastric contents show progressive improvement in the processes of digestion, hyperacidity diminishes; if too little acid is present it becomes increased, a statement which is in accord with Steudel, Carl and Fantino, Kausch, Hartman, Soupault, and Mintz.

When a Radical Operation is Contraindicated

When a radical operation is contraindicated, what course shall the surgeon pursue? The most rational operation is gastrojejunostomy. The mortality rate is always high, but this is not surprising when the fact is considered that in this class of patients the vitality is at ebb-tide and the disease has already made its inroads both locally and throughout the entire system.

In variance with this generally accepted dictum, are the observations of Moynihan and Robson:

"There can be no doubt that in such cases gastroenterostomy is productive of the most remarkable benefit to the health and well-being of the patient. The weight increases, the appetite and the power of gratifying it return, and vomiting, often the most distressing and unceasing symptom, stops at once. But there can be no doubt that in some instances when the growth does not actually obstruct by its bulk the onward passage of food, a decided benefit results from operation."

A little later they thus modify this statement:

"The question may arise as to whether gastrectomy should not be performed deliberately as a palliative operation in cases where an early secondary deposit can be seen in the liver, or inaccessible or irremovable glands to be found in the pancreas or along the aorta

or vena cava. If we take into account the following advantages of gastrectomy as compared with gastroenterostomy; that in the most competent hands its mortality is not greater but is even less than the mortality of gastroenterostomy, that a period of life ten months longer than by gastroenterostomy is the rule, that the comfort, general health, appetite and well-being of the patient are all emphatically better; and, finally, that the patient has always a chance, even though it is of the slenderest, of a complete recovery from the disease—if we take all these into consideration, there can be no doubt that the operation of choice will always be gastrectomy."

Ten or twelve years ago, Robson did not expound this theory; he at that time believed that, "Because of extensive adhesions, secondary growths or involvements of glands, it is unwise to attempt pylorectomy or partial gastrectomy, though there is sufficient free stomach wall left to enable a gastroenterostomy to be performed. In such cases a gastroenterostomy, if performed with proper expedition and adequate precautions, affords the greatest relief to the sufferer, who not only loses the distress due to painful peristalsis and to the irritation of the retained secretions, but also becomes freed from toxemia due to absorption of the poisonous, fermenting stomach contents."

Factors in the Choice of Operation

With a consideration of the prognosis we pass to a brief review of the choice of operation in cancer of the stomach, mentioning the type of operation best suited in certain locations and under certain conditions and circumstances, as well as the contraindications to certain operations.

When the disease is found too extensive for operation, it is desirable that the remaining weeks of the patient's life should be spent in bed. In the *early* stages of the disease, an *exploratory incision* for diagnostic purposes in efficient hands, is practically *nil*. In 1905 the Brothers Mayo, at the St. Mary's Hospital, Rochester, Minn., reported 25 exploratory incisions for cancer, without a death.

The operation of *total gastrectomy* is always a formidable one and should only be attempted by an adept in the field. The operation, at best, should very rarely be ever attempted. The operation must be done *early* in the disease. Unless the whole offending mass can be removed, no good purpose will be served by its performance. It is contraindicated late in the disease, or when extensive adhesions have formed or where the lymphatics have been invaded or secondary growths have developed.

Partial gastrectomy is a far safer operation and, as indicated by its name, aims at the removal of certain definite portions of the diseased organ including the pylorus and neighboring parts of the stomach, including, if needs be, the whole of the lesser curvature.* If the gastric area removed extends still further along the greater curvature toward the fundus, we speak of the operation as a *subtotal* gastrectomy. Partial gastrectomy is the operation of choice for the radical cure of gastric carcinoma. The mortality according to different observers varies between 10 and 14 per cent. After the operation of partial gastrectomy, *the first method of Billroth for the purpose of restoring the continuity of the gastrointestinal tract is emphasized so as to unreservedly condemn it.* The simple suture so often allowed of a leakage, that the operation was always associated in surgical minds with "the fatal angle of Billroth."

When the cardiac pouch is small, the second method of Billroth (anterior gastrojejunostomy) is well adapted to cases of subtotal gastrectomy.

What is sometimes termed the method of *transmesocolic gastrojejunostomy* is also indicated in subtotal gastrectomy. The operation originated with Poyla, and he described it as "an anastomosis between the jejunum and the open stump of the stomach."

Kocher closes the cut-end of the stomach by means of a continuous catgut marginal suture taking up the whole thickness of the cut surfaces including the mucous membrane, after which the united edges are invaginated and closed with sutures. The open end of the duodenum is then applied to the new opening made in the posterior surface of the stomach, to which it is united.

The subject of gastroenterostomy has been sufficiently dwelt upon in this paper.

When the carcinomatous mass is found in the esophagus or at the cardiac end of the stomach, resort is often made to gastrostomy. But, as a rule, the operation is delayed so long and the patient by this time is so exhausted that the operation offers a discouraging mortality. In some cases of dysphagia, when done early, this operation is said to have accomplished most excellent results.

When the *median* portion of the stomach only is the seat of malignancy, resort may be made to *cylindrical gastrectomy*. But the operation is contraindicated if the glands in the gastrohepatic omentum be involved, as such a contingency will demand removal of the entire lesser curvature.

Gastric resection is adapted for the following cancerous conditions in the stomach: When the neoplasm affects the anterior or posterior wall (involving neither curvature); or when the growth is confined to the greater curvature alone and near the fundus Such growths are extremely rare in these locations, and the consensus of opinion is that the operation of partial or subtotal gastrectomy offers a better prognosis as to ultimate cure.

*The expressions, Mayos's line, Mikulwicz's line, and Hartman's line have been purposely omitted from the text. These are imaginary, arbitrary lines extending from the lesser to the greater curvature. They map off certain areas, and are of little practical worth, as they cannot limit the extent of the cancerous invasion. Robson says they have no use in gastric surgery.

Jejunostomy and *duodenostomy* may rarely be performed, and are courts of last resort when nothing else can be done. When a case of carcinoma of the stomach is far advanced and extensive, where no healthy spot of sufficient size on the stomach wall can be found for the purpose of gastroenterostomy or other procedure, these operations offer themselves to the consideration of the surgeon. Naturally, these patients are desperately ill and the operation must be done by one expert in the field and be accomplished with the greatest dispatch.

Is Cancer of Parasitic Origin?

Until the Cause of Cancer is Discovered We Work in the Dark

By ALBERT SCHNEIDER, M.D., Ph.D.,
University of Nebraska, Lincoln.

The etiology of cancer is still unsettled, its ravages are still raging, while some minds still cling to the parasitic theory of the origin of malignant growths. Just as every man is entitled to his opinion so is every physician entitled to the light shed by such opinion. The paper of Dr. Schneider has aptly presented the pros and cons on the subject under consideration. Read it and draw your own conclusions.—EDITORS.

ON THE QUESTION of the origin of cancer, scientists are divided into two camps. In the one camp are those who argue that cancer is of parasitic origin, and in the other camp those who declare most emphatically against the parasite theory. For a time the proponents of the parasite theory were dominant, but even from the first there were those who vehemently denied and opposed the concept; and, at the present time, the opponents of the parasite theory are in full cry. It was this wholly useless and aimless controversy which caused the breaking up of the International Association for Cancer Research fostered by Czerny and by the German Committee for Cancer Research as early as 1900. The German Cancer Research Committee was unfortunate in formulating its activities on the assumption that this disease was of parasitic origin, an opinion for a time upheld by many, if not most, of the American investigators, but generally opposed by English and French investigators. More recently American investigators have drawn away from the supporters of the parasite theory, and the defenders of the parasite theory are usually met with ridicule.

The following is believed to be an impartial and unbiased presentation of the arguments for and against the idea of the parasitic origin of cancer, without making any reference to recent discoveries touching on the subject. After considerable reading we have decided to submit the statements of Dr. Charles Powell White (The Pathology of Growth. Tumors. London, 1913) as the basis for the arguments, quoting from his work and wherever indicated introducing the counter argument. It may be explained that Dr. White is himself an opponent of the parasite theory, whereas the writer is a supporter of the theory. To quote from Dr. White's work:

Improbability of Intra- or Extra-Parasitic Origin of Cancer

"If the continued cell proliferation in tumors be the result of direct stimulation by an extrinsic irritant, such irritant must of necessity be a living organism, since the proliferation, being continuous and progressive, demands a continually increasing irritant. This applies equally to the histomata and cytomata, and since, as we have seen, there is no sharp boundary between the two classes of tumors, we must infer that the essential causal factor is of the same nature in both cases. The supposed parasite must be either intra- or extra-cellular. If it is extra-cellular it is impossible to explain the absence of infection of the surrounding tissue; for, as we have seen, the growth of a tumor is the result of the proliferation of its own cells, and the surrounding tissue takes no part in it, except in certain cases in connection with the area of origin. If, on the other hand, the parasite is supposed to be intra-cellular it would seem necessary to suppose that the division of the cell and of the parasite was so timed as to be simultaneous, each daughter cell receiving a daughter parasite. In all cases in which parasites are found within cells the effect is the destruction either of the parasite or of the cell."

Reply.—The last statement is not in harmony with fact. Biology records innumerable instances of

growths in which the intra-cellular parasite does not kill the cell in which it lives and it (the parasite) in turn is not killed. We need only recall the root nodules of leguminous plants. The parenchyma cells of the interior of the root nodule are packed with bacteria (*Rhizobium leguminosarum*) which, instead of hindering cell division, actually stimulate such activities resulting in tubercle formation. Furthermore, the tubercle consists of two distinct portions, the area containing the bacteria, and the non-infected area, both portions being neo-formations, the result of the infection. The fact that in the case of the leguminous root nodules we have a case of mutualistic symbiosis, whereas in cancer the symbiosis, if such exists, is clearly antagonistic, does not in the least negative the comparison. Biology also records innumerable instances where extra-cellular parasites, by their mere presence, induce extensive cell proliferation, as in gall formations. It has even been suggested that many so-called normal growths, as tubers, fleshy roots and possibly fruits, are the result of initial bacterial or microbial stimulation. Infections of all kinds induce abnormal cell proliferation, and with the disappearance of the infection the abnormal cell proliferation also ceases and the tissue soon returns to normal. In those instances in which the intra-cellular parasite acts as the stimulus to mitosis, as in the root nodules of the bean family, the abnormal mitosis is dependent upon the invading organism. If the parasitic stimulation becomes excessive, death of some of the cells results, the tubercle breaks down, and the parasites are set free. Cancer behaves as though it were under the influence of some intra-cellular parasite, which sooner or later results in excessive cell proliferation with death and disintegration of some of the infected cells. Dr. White continues:

Normal and Abnormal Cell Proliferation

"Since cell proliferation in tumors is similar to cell proliferation under normal conditions, the assumption of a parasite to explain it is quite unnecessary, and makes an explanation of tumor growth more difficult."

Reply.—The above statement is so unworthy of a scientist as scarely to merit a reply. Cell proliferation in cancer is far from normal. It is no more normal than any other pathological cell proliferations. If cancer is of parasitic origin we wish to know it, no matter how difficult it may make the explanation of tumor growth.

Symbiosis and Cell Growth

"Direct stimulation of cell growth by a parasite is an unknown occurrence in biology and is opposed to the facts of parasitism, and the difficulty is not avoided by applying, as some do, the term symbiosis as explaining the association between the supposed cancer parasite and the organism. In symbiosis the partners receive mutual benefit from the association, but symbiosis does not lead to proliferation."

Reply.—These statements are contrary to the proven facts in biology and cytology. All parasitic infections cause more or less stimulation of cell growth, as is generally known. The statement that symbiosis (mutualistic symbiosis is here meant) does not lead to (cell) proliferation is not so, as is clearly shown in the case of the root nodules of the bean family. Furthermore, many inflammatory processes and granulation tissue formations are induced by parasites of various kinds. Whatever cancer may be, it certainly does not present any of the characteristics of a mutualistic symbiosis between the cells of the host organism and the cancer parasite. The writer has elsewhere designated the relationship that exists between cancer and the normal cells of the organism as "paracytosis," as contrasted with the condition which, for example, we find in phagocytosis ("patrocytosis"). However, these terms (namely, paracytosis and patrocytosis) do not explain anything. Nor do we find any great satisfaction in the statement that cancer is due to certain cells having "gone wild" or having "gone on a rampage" or that they are "dormant, embryonic cells which have been stimulated to activity." What we wish to find is the cause which made the cells wild or which made them go on a rampage, or which made them proliferate as do embryonic cells. We have not yet proven that the cause is not a parasite and there are no sound reasons which would preclude absolutely a parasite of some kind as such a cause.

Cancer Organisms—Non-Isolable

"Numerous micro-organisms have been described by different observers as occurring in cancers, and for many years there has been a great controversy between those who uphold and those who deny that cancer owes its origin to one or more specific parasites. Investigation has been carried out both by histological and by cultural methods and, at different times, bacilli, cocci, torulæ, protozoa, myxomycetes, spirochaetes, nematodes, and ascari, have been suspected as specific organisms for cancer, but no organism yet described has stood the test of criticism. No one has yet isolated from cancer any organism which will give rise to cancer when inoculated into other animals, except the cancer cell itself, which, as we have seen, will, under suitable conditions, continue to live and produce cancer when grafted into an animal of the same species as that from which the cancer was derived."

Reply.—The above is only too true. Leaving out some very recent observation, we will admit that thus far no organism has been isolated in pure culture to which may be ascribed the cause of cancer. Even if this were absolutely true, such evidence would not disprove the parasitic origin of cancer. The plasmodium of malaria has not yet been cul-

tured artificially, and yet all must admit that malaria is of parasitic origin. Other diseases, due to two host parasites, might be named. May not cancer be due to such a parasite? The writer believes this to be the case, as is explained elsewhere.* Dr. White concludes as follows:

Parasitism of Cancer Cell Itself

"We thus see that the assumption of a specific parasitic origin for cancer leads to insuperable difficulties in explaining the observed phenomena. The difficulties entirely disappear if we consider the cancer cell itself as a parasite and cancer as a process of infection by cancer cells."

Reply.—We believe we have shown that Dr. White's arguments do not prove that cancer is of non-parasitic origin. To say that the cancer cell is the parasite is on a par with the statement that cancer is epithelial or embryonic cells gone wild or gone on a rampage. It does not mean anything and is wholly unsatisfactory to the scientific mind. Cancer does present many characteristics which point to a parasitic origin. Only on the assumption of a parasitic cause can we explain the sudden and rapid proliferations and metastases into practically all parts of the body. Just because we have not yet found the cause of cancer is no reason why we should give up the hope of finding it. What is more, not until we have found the cause of cancer will we be able to control this malady. Until then we will continue to work in the dark.

Chronic Leg Ulcer

Determine Causative Factor Before Treatment

DIFFERENTIAL DIAGNOSIS WITH REPORT OF A SYPHILITIC CASE

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A Multi-phased Subject Made Clear

The genesis of leg ulcers is as uncertain as repellant, and is indeed unyielding to corrective measures. Here the best efforts of the best brains often fail. Verily, how are you going to treat the obstinate sore unless you know that the causative factor is varicose veins, tuberculosis, diabetes, phlebitis, trauma or syphilis—influenced additionally perhaps by elements such as age, sex, occupation, constitutional or social environments? This multi-phased subject is admirably discussed in Dr. Broeman's paper.—Editors.

ALTHOUGH much has been written about the various kinds of crural ulcers, the treatment has been so diverse and the results so uncertain that practitioners have grown indifferent to this repellant and loathsome disease. When the frequence of its occurrence is considered we are amazed at the scatter-brained methods which are resorted to. Many physicians seem to work on the principle that no remedy will do any harm and consequently they run through their stock of ointments and pomades, trusting to fate that one will prove effective.

Is it therefore any wonder that the term chronic is so usually applied to the condition of leg ulcer? Surely, not all the measures tried, whether founded on theory or guesswork, have yielded only negative results. Instead of taking for granted the economic burden to the community and the individual, when years of pain and distress are spent beating a path to the clinic, we should arouse ourselves to a concerted effort to make *chronic* leg ulcer obsolete.

Etiologic Factors

No attempt at treatment is justifiable until the causative factor has been determined. Predisposing causes are varicose veins, tuberculosis, diabetes, leprosy, phlebitis, trauma and syphilis. Of these, varicose veins are the most frequent. Trauma may develop into an ulcer itself, or, more often, may be the inciting agent superimposed upon other pre-existing disease. Age, sex, occupation, social and constitutional conditions are also influencing factors.

Leg ulcer, as a complication of tuberculosis, diabetes or leprosy, is too rare to require discussion here. Other evidence of these diseases would furnish the clue to diagnosis in such circumstances.

*Albert Schneider, Preliminary Report on the Probable Cause of Cancer and of other Tumor Formations; *The Medical Woman's Journal*, XXVIII (No. 12), 289-298, Dec., 1921.

The point of special difficulty seems to be the differentiation between ulcers of varicose and those of syphilitic origin. The characteristic peculiarities should be carefully noted and looked for in each case as it presents itself.

The case history is of paramount importance. The essentials of history taking and their incalculable assistance to accurate diagnosis have recently been discussed by me* and I refer the reader to a careful consideration of the points discussed therein. Some other evidence of specific infection is usually available as the ulcers manifest themselves most frequently late in the progress of the acquired form of the disease. Occasionally they appear soon after the primary lesion or in young persons who have congenital syphilis. As is characteristic of all luetic ulcers, they seem to have a predilection for joints and the most frequent site is the knee. However, a sufficient number appear in the neighborhood of the ankle, as in the case cited in this article, to be confused with varicose ulcer if one were to depend upon location alone for a diagnosis, the latter being more likely to appear near the ankle.

The syphilitic ulcer follows upon the breaking down of poorly nourished subcutaneous gummata. Contributing complications are the atheroma and obliterative endarteritis characteristic of the specific infection. As a rule the patients have acquired the most pernicious life habits and many signs of lowered vitality, filth and even drunkenness complete the picture. For these reasons, we commonly find the condition among the poor, in males (on an average of three to one), and habitual drunkards.

Appearance—Differentiation

Thickly studded patches of ulcers occur as the gummata break through the soft parts of the leg. Very occasionally the ulcer is solitary. The multiple form, as shown in the illustration, is more typical, the ulcers varying from the size of a pea to that of a hen's egg or larger. They usually occur between the third and sixth year of the disease, but may begin at any time after the second year. The gumma first appears as a deep-seated nodule or localized perivascular granuloma set in the subcutaneous tissue. The center, however, soon breaks down into a gelatinous, gummy mass. Held together by a network of connective tissue, the necrotic masses enlarge and burst through the skin. A yellow serosanguinous fluid exudes which has an almost unbearable odor. The outline of the sore is rounded with intact edge, giving a punched-out appearance. A thick, firm, pinkish gray granulation may cover the base; it may be replaced by a tough grayish slough.

Evidences of syphilis in other parts of the body help to corroborate the diagnosis, but no reliance can be placed upon failure to find such evidences or to elicit a positive history. Objective symptoms are the most reliable guide. The presence of considerable induration laterally and at the base is characteristic, as is also the tendency of the ulcers to arrange themselves in circles or semi-circles and coalesce. A typical syphilitic leg ulcer, as just described, must be differentiated from (1) simple abscess, (2) erythema nodosum, (3) varicose ulcer, and (4) epithelioma.

Simple Abscess

1. Simple abscess develops rapidly as compared with the number of weeks or months required for



Syphilitic ulcerations of both legs with marked hypertrophy and infiltration of surrounding tissue. Wassermannstrongly positive.

*Broeman, C. J.: A thorough history an important factor in syphilis, Am. J. Syph. 5:565, 1921.

a syphilitic gumma to become an abscess. Moreover, in the former there is no history of trauma or infection. An incision into an abscess releases only a few drops of bloody or purulent serum, in contrast to the gushing of pus which comes from a gumma. Before the gumma reaches the stage where it resembles an abscess it gradually becomes red and tense and then, softening, becomes purple, boggy and tender to pressure. A simple abscess has no such incubation period. A positive Wassermann or history of lues is conclusive.

Erythema Nodosum

2. Erythema nodosum appears suddenly as a bright red, rosy nodule, the color changing to a dark reddish hue. The process is very acute, running an extremely painful course through seven to ten days. There is usually more than one lesion, and frequently both legs are involved. The temporary character of the lesion serves to distinguish it from the specific ulcer.

Varicose Veins

3. Varicose veins as a rule, are overstressed as a forerunner of ulcer, to the exclusion of syphilis. That is, if a varicosity is present, the general practitioner is likely to conclude forthwith that no further search need be made for a cause. As a matter of fact, varicose veins may be and frequently are present when the ulcer is syphilitic. Because of the frequent confusion of the two forms, the points of differential significance have been tabulated to facilitate distinction.

	Varicose Ulcers	*Syphilitic Ulcers*
(1)	Confined to lower third of leg, usually on internal surface.	Any part of leg but in the region of the knee is most characteristic. Calf of leg usually involved.
(2)	Usually single; very rarely multiple.	Most often multiple.
(3)	Irregular shape.	Round.
(4)	Edges round, shallow and never undermined.	Edges sharp; ulcer deep, indurated with formed crater.
(5)	Surrounding skin reddened, thickened, pigmented and often itchy.	Very little redness.
(6)	Base appears as large island of hypertrophied granulation.	Sloughing or considerable induration at the base as well as laterally.
(7)	No other evidence of syphilis, negative history and blood tests.	Evidence of syphilitic infection; specific history; positive Wassermann.
(8)	Varicose veins always present.	Varicose veins may be absent.
(9)	Antisyphilitic treatment ineffective.	Antisyphilitic treatment cures.

Ephithelioma

4. An epithelioma may occasionally present considerable resemblance to a broken down gumma. Its occurrence is very rare, comparatively speaking. It usually involves adjacent lymph nodes causing an enlargement, while a gumma is self-contained and sluggish in growth. An epithelioma bleeds more easily, is more shallow and has an infiltrated border. A gumma forms for itself a deeper, cone-shaped excavation and exudes some of its sloughing contents. Microscopic examination of a small excised portion of the growth may be of assistance but it is quite difficult at times to state with certainty whether the pathological entity is an epithelioma or a gumma.

The results of anti-syphilitic treatment are most enlightening in all doubtful lesions.

A Case Report.

The following case report is particularly interesting because of the extent of ulceration and the fact that, in this age of enlightenment, the man had never been treated for syphilis, thus allowing the condition to progress to the extent of involving the lower two-thirds of both legs.

Mr. D. B., age sixty-five, admitted to the hospital for ulceration of both legs. There was no history of trauma or infection. Patient stated that about ten years ago, a small sore developed on one leg. Soon afterward another sore began on the other leg. The original ulcers spread gradually, becoming quite extensive until at present they nearly encircle both legs in the region of the ankle and lower calf. The hypertrophied edges and surrounding tissues of a cauliflower-like growth constitute almost two-thirds of the growth.

The patient's Wassermann blood test was strongly positive.

Treatment was mildly anti-syphilitic, consisting of one injection of arsphenamine every three weeks, deep intramuscular injection of mercury and twenty drops of potassium iodide internally four times a day after eating. The iodide dosage was increased two drops per day, until he was taking 60 drops three times a day. He was also given weekly, a deep intramuscular injection of three minims of grey oil. Locally, wet aluminum acetate dressings were alternated with a 1:10,000 bichloride of mercury dressing. When the ulcer began to granulate, a soothing ointment was applied. This ointment contains zinc oxide and calomine each one dram, carbolic acid five drops and vaseline one ounce. The patient, while confined to bed for a period of one month, was kept with the limbs continually elevated. This is an important point in the treatment of all forms of leg ulcers, especially in elderly persons. While in the hospital, the patient improved considerably. Since his discharge he has been lost sight of and we fear that the condition has become stationary again.

The Acute Abdomen an Immediate Problem

You Must Know What to Expect, Anticipate, Look For

By Samuel Floersheim, M.D.,
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Aptly Reviews this Vital Subject

An acute abdomen has sent many a patient to the grave. An acute abdomen requires immediate attention. You have no time to study an acute abdomen, you cannot wait, you must act. To know what to expect, what to anticipate, what to look for when called upon to treat this condition, you will find Dr. Floersheim's paper, which aptly reviews this vital subject, authoritative and very helpful. —Editors.

GENERALLY SPEAKING, the acute abdomen is a problem for the surgeon. To delve deeply into all phases of the issue would take too much space. It is therefore evident that much good and instructive material will necessarily be omitted. That which interests the medical man particularly is the diagnosis, upon which will depend whether the treatment will be medical or surgical.

Pathological Consideration

There are a number of pathological entities of acute abdomen in which the physician is deeply interested. They are:

All forms of acute appendicitis (catarrhal, hemorrhagic, infected, gangrenous, perforated or ruptured), acute gastric ulcer, perforated gastric ulcer, duodenal ulcer, acute gall-bladder—with or without stones, acute septic cholecystitis or empyema. These are the more frequent types of acute abdomen, but I wish to deviate therefrom and give you a short dissertation upon the more infrequent issues which have crept into my path in the years of practice of my specialty.

Checking up the list, I find it to include, in addition, the following interesting entities:

Diaphragmatic hernia, ruptured psoas abscess into the peritoneal cavity, ruptured kidney either from external or internal violence, from pus collections or ruptured cysts, impacted ureteral calculi, superimposed hydrostasis or pus collection, enteroliths, ruptured extopic gestation, ruptured pus tube and ovarian cyst, peritonitis from a perforated uterus, acute intussusception, acute volvulus, hemorrhagic pancreatitis, perforation of the small intestine with abscess formation, hemorrhagic spleen, infarct of the omentum, torsian of a long pedicled tumor, rupture of the abdominal aorta.

The liver, in my experience, has been extremely reserved in the causation of an acute abdomen. An abscess of the liver is usually of a chronic variety. I recall, however, that many years ago in consultation I diagnosed a case as one of probable septic embolism, as there was a history of a recent recto-perineal operation. This was definitely established at autopsy.

Symptomatic Consideration

A few of the more interesting points in the symptomatology of this condition will be well illustrated by the following cases:

An acute abdomen, with the usual symptoms of pain, chills, fever, pulse rate and shock, was seen by me after three or four days' illness. The diagnoses previously made were malaria, gastric fever, gallstones, acute appendicitis and hysteria. Upon recto-vagino-abdominal examination, a diagnosis of acute cystitis, with the presence of a hard mass, probably a stone, was advanced. At operation, a styletted catheter, coiled up in the bladder with a stone as large as a walnut upon the fenestrated end, was found in addition to the cystitis. Later, confronting the patient with the evidence, she admitted that a hard catheter was passed into her uterus and was never recovered. At the time of introduction of the catheter into the uterus, she experienced no extraordinary degree of pain. The catheter had perforated the uterus and bladder with apparently little immediate untoward effects. Before the operation no history of catheter introduction was given or suspected.

In another case, the family physician diagnosed the attack as one of abdominal rheumatism. Careful study of the history, a careful and delicate examination of the exquisitely tender abdomen, and an extremely ill patient, gave me the impression that we were dealing with a ruptured *right* ectopic gestation. It should be mentioned here that the pathognomonic symptom which was present in this case—air-hunger, the patient crying for air—usually means internal hemorrhage. The surgeon called in to operate discounted the diagnosis and thought he was dealing with a ruptured ovarian cyst. Operation proved it to be a *left* ruptured ectopic pregnancy, with the peritoneal cavity filled with clotted blood.

The lives of four women were saved by insistence upon immediate operation for acute volvulus. The diagnosis advanced by the family physicians in three of these cases was acute indigestion and in the fourth case overstrain of the abdomen from heavy lifting.

Numbers of other cases, many of which we agreed upon as to the preoperative diagnosis, include a hemorrhagic pancreatitis, perforation of the pancreas, in which operation demonstrated a ruptured cyst, infarct of the kidney, fulminating gastritis, infarct of the omentum and torsion of a long pediculated tumor. A diagnosis of ruptured appendicitis was

*Read before the Harbor Branch of the Los Angeles County Medical Society, at its stated meeting, November, 1920.

concurred in by me and, upon opening the abdomen, it was found that we had a markedly prolapsed stomach with a perforated gastric ulcer. Here we had a patient who never gave any history of gastric disturbance, yet had much stomach pathology.

In one instance, a diagnosis of septic peritonitis was made, which proved at operation to be one of an acute miliary tubercular peritonitis. In another case a diagnosis of acute septic peritonitis was made and established at operation, yet the etiology was never clearly established. It was believed to be of hematogenous origin, but at the time of operation and later at autopsy the small intestines could not be definitely ruled out.

The following is an interesting case:

The patient was a prominent surgical specialist in whom a diagnosis of acute appendicitis was made and concurred in by more than fifteen consultants. An eminent surgeon and particular friend of the patient operated upon him and, to the amazement of all, the appendix was not to be located and the absence of the cecum was noted. After more than an hour and a half of diligent search, a rudimentary cecum and ascending colon, with an acutely inflamed appendix, were found tucked up high in the abdomen and attached to the under-surface of the liver and behind the gall-bladder. After considerable difficulty, the appendix was removed and an apparently uneventful and rapid convalescence ensued for ten days, when suddenly an acute paralytic ileus carried the patient off in twenty hours. The cause of the ileus could not be ascertained, even after a most careful autopsy. No infection whatever could be demonstrated.

In another case a diagnosis of a rather rapid tumor growth of the small intestines was made and, owing to its rapidity of development, an abscess was also suspected. At operation the surgeon stated that we were dealing with a tubercular condition of the intestines. He showed us miliary areas all over the meso-intestines, extending far more than two feet each side of the mass. Another prominent surgeon present said he was certain we were dealing with a cancerous condition, as he saw many such cases. A pathologist present just then was handed the resected specimen with a portion of the gut attached to it. He stated offhand that he believed it to be an intestinal abscess not often encountered, and due to a punctured wound of the wall of one of the coils of small intestines. On close examination, he proved himself correct.

A severe attack of gastric pain, with vomiting of blood, was diagnosed as an acute gastric ulcer with impending perforation. Upon the operating table the surgeon found a spastic stomach, with a large movable mass within. On opening the stomach, a hair ball was removed. Otherwise, the stomach was found to be normal.

A stomach may be so prolapsed that in an acute attack it may simulate either acute appendicitis, ureteral stones, urinary bladder or tubo-ovarian disease. An appendix may be so misplaced as to give most all signs and symptoms of gall-bladder, kidney, utero-ovarian, stomach, and even left-sided inflammatory conditions. Left-sided appendicitis has been recorded. Four to six years ago prominent Philadelphia and New York surgeons were active and enthusiastic in presenting cases of acute abdomens, due to acute hemorrhagic and perforated pancreatitis. Within the past three years duodenal ulceration and perforation have come into the limelight.

In acute abdomen, it is quite important to make as near a correct diagnosis as is possible, and at the same time not to increase the hazards of our patient by delays of operation when necessary.

Tentative diagnosis may be made in the absence of definite diagnosis, in order that the surgeon may be directed to the apparent offending organ or area, and at operation, if feasible, the exact pathology should be ascertained.

Usually appendicitis and gall-bladder diseases are easy of diagnosis, yet many mistakes are made and will be made. The two may co-exist and complicate matters, and each or both may at times simulate disease of the many other organs in their vicinity.

Treatment

The treatment depends on the lesion present. Our diagnosis should, therefore, be as nearly correct as possible. Treatment is either medical or surgical. The medical men must admit that from 60 per cent. to 75 per cent., at least, of acute abdomens require surgery for their relief. One could argue rightly that all cases require surgical treatment, yet in the light of our inability to make 100 per cent. correct diagnosis and the apparent cures at times under medical treatment, arguments for the medical side appear to have a standing. Some of the apparent acute surgical abdomens have turned out to be acute functional conditions which did not require operative interference, and among which can be cited acute gastritis, cardio-spasm, gastrospasm, pyloro-spasm, entero-spasm, and colono-spasm or spastic colitis. Other definite entities, such as gall-stone colic, acute catarrhal gall-bladder, and acute catarrhal appendicitis, are ofttimes cured medically, at least in their initial stages, though you may take the opposite position and say it is not good, rational, modern treatment. From 30 per cent. to 100 per cent. of acute catarrhal appendicitis recover from their attacks without operation. Cases of acute gastritis and gastroduodenitis may simulate closely acute gall-bladders, gastric ulcers and acute appendicitis and under medical treatment, cures of the simulated disease may seem to be accomplished. This, of course, is erroneous, but the trouble lies not in our treatment, but in our wrong diagnosis.

We must keep in mind the fact that gastric crises of tabes may occur even though the patients truthfully deny acquired infection. Operations upon these patients will not bring relief.

Habits Which Lead to Constipation

Civilization Is the Primal Cause of Constipation

By A. W. Herr, M.D.,
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Ever since the human quadruped became a biped, constipation became a product and a problem of civilization. Whether this abnormality is due to the superimposition upon one another of the body viscera, "originally" intended to be hanging freely from the posterior aspect of the body, as we believe, or is due to the several factors enumerated in this splendid and instructive paper, or both, is a question worthy of the physician's consideration. At any rate, Dr. Herr presents a delightful paper which we are sure you will enjoy.—Editors.

CHRONIC CONSTIPATION is a disease of civilization. Wild animals and domesticated animals living under natural conditions, or men living a normal life, do not suffer from this malady. Something is evidently wrong with the civilization. Were we to return to the pastoral life of our forefathers, eat as they ate, dress as they dressed, and exercise our muscular powers as they, in felling the virgin forests and battling with wild nature's forces, we doubtless would hear little of this disorder of alimentation, a disorder which, aside from the discomforts it causes, is responsible for a host of other ailments and bodily distempers.

It is a responsible factor in many backaches. It may have a relationship to diabetes and tuberculosis, as these diseases are invariably preceded by chronic constipation for a prolonged period. It is a cause of congestion of the abdominal organs, which congestion results in cold hands and feet and numbness of the limbs.

To dispose of the absorbed poisons of constipation all the glands of the body are overworked; liver and spleen may become enlarged; the thyroid gland may become affected, resulting possibly in goitre in its various forms. Colitis is induced; diseases of the kidney, liver and gall-bladder may ensue. The adrenalins may be overworked, resulting perhaps in Addison's disease. Eczema and other skin affections, rheumatism, gout and high blood pressure can sometimes be traced to constipation.

Temporary Relief and Chronic After-effect

Countless potions prepared with pharmaceutical nicety, prescribed and taken to flush this tubal canal, generally afford temporary relief at the expense of future chronicity. The daily flushing of the canal by means of mineral and saline irritants is usually at an immense cost healthwise to the patient, for by washing away the normal protective agencies of the bowel it leaves a congested mucous and submucous tract more open to germ invasion and local infection.

Besides this, habitual flushing of the lower alimentary canal causes an uneconomical waste of digested and undigested food material, particles of which have not been afforded sufficient time to be absorbed by the lacteals, and papillæ of the intestinal wall are washed away, as high as 50 per cent. of the food ingested again appearing in the stool.

Etiologic Factors

To handle a case of constipation intelligently, the physician needs to become conversant with habits which lead to and the several causes producing constipation, and then he will be able to ascertain which one or more of these causes are operative in any one case. This simplifies the management, which calls for a removal of the responsible conditions present in each case.

As stated, the primal cause of constipation is civilization. Primitive men rarely ever suffered from this disorder. Country people suffer less than city dwellers. The modern toilet seat is a factor; the normal position is a squatting one during evacuation.

"'Tis worth much to be well born." Granted then, that at birth we have a normal infant, let us ask, is it possible to so train this child that it will grow to manhood with normal alvine discharges, free from this malady; or, if a female, must she grow up "a constipated thing with a pain in her back?"

Let us emphasize the following fact: had man from earliest childhood days been educated to make use of his masticatory powers, as had the wild man of the forest and the lower animals, in the chewing of cane, roots and nuts, thus bringing into exercise the jaws in the effort to extract their saccharines, constipation would be an unknown quantity among us, whereas it is the rule; it is rare that we find a man, and a woman never, who is not or has not been constipated at some time in his or her life.

Anatomic and Physiologic Considerations

Man is endowed with powerful masticatory muscles and three sets of salivary glands, indicating that they were placed there for a daily, definite use. Scientific cooking has so thoroughly denatured food that the average human seems not to be conscious of the presence of these muscles and glands,

and knows less of their purpose. The ordinary man as we find him in primitive or savage life makes proper use of these functions. Our teeth are not those of a turkey, merely a gizzard in our stomach, but are placed at the entrance of the tubal canal with the idea of properly dissolving the food and insalivating the same before deglutition takes place. We have no teeth in our stomach, therefore insufficient mastication means insufficient salivation, which thus induces constipation. The stomach has no action upon starch. The place of dissolution of the starch granules is the mouth and not the stomach. The gastric juice acts only upon proteins of the food and not at all upon the carbohydrates. Consequently, if the saliva is not commingled with the starch and acted upon by the ptyalin ferment there is no starch digestion, at least not until the stomach, after hours of worry, has emptied itself and the food has entered the intestine, where an extra burden is imposed upon the pancreatic digestion in dissolving the starch, where work is carried on slowly and imperfectly, resulting in fermentation, followed by constipation and auto-intoxication. One should not live upon slops and mushes and over-cooked foods if he does not wish to become constipated. A solid or semi-solid diet in the form of baked cereals and vegetables, raw fruits and green salads furnish just the necessary exercise for the masticatory muscles and salivary glands. Further, the mastication of such food stimulates reflexly the remainder of the digestive glands along the alimentary canal, so that at the entrance of the food into the stomach there is present sufficient amount of gastric juice to disinfect this food and to dissolve the proteins present, which then readily pass into the grasping and hungry intestinal chamber for quick dissolution and ready absorption.

Normal and Faulty Digestion

Undigested starch is not a laxative and consequently has a tendency to be held back a longer period than usual at the ileocecal valve, and this long delay results in fermentation and marked distention of the colon. Normally food does not remain in the body a longer period than twenty-four hours, but under conditions just described may remain for a period two or three times as long, which often results in an infection of the mucous membrane. This may later develop into chronic colitis or appendicitis.

In a thorough disintegration of the carbohydrate cells by the action of mastication lies the possibility of conversion, by amylaceous ferments, of these starchy molecules, into laxative sugars. Starchy food particles, therefore, should be subjected to prolonged contact with ptylaine ferment of the saliva, and later to the pancreatic ferment. Thus by a series of oxidations and hydrations from starch and cane sugar we will have produced dextrose and levulose which are freely hygroscopic and therefore food laxatives.

The Diet and Constipation

One other lesson may be learned by a study of the habits of lower animals, our friends beneath us, is that they subsist upon but one or two articles at a time rather than the conglomeration that oft finds its way upon our tables and into our stomachs. Foods will agree with each other better in the stomach if but a few articles of diet are partaken of at each meal, as the stomach is supposed to secrete a different quality of gastric juice for each article, and confusion is liable to result if these articles be too numerous at each meal. Besides, living upon but one or more articles of diet at a time will not lead to surfeiting, which of itself is a marked cause of constipation.

A flesh diet usually constipates because it lacks in bulk and because of the tendency under bacterial action to putrefy and produce highly toxic substances which narcotize the nerve endings in the bowel and retard peristaltic action.

A lack of fat in the dietary is a frequent factor in constipation, as the bowel needs lubrication. Fat in an emulsified form is the best, as in this form fat does not interfere with stomachic digestion, as does free fat. Ripe olives contain 50 per cent. of olive oil in an emulsified state and these we have found to be excellent in overcoming intestinal stagnation, and in many cases it is all that is needed to regulate the bowels.

Bile being the natural laxative of the bowel, if the liver becomes torpid or diseased in any way, and there is a lessened secretion of this product, the bowel suffers from a lack of bile stimuli. Measures to overcome torpidity of this organ must be instituted.

Sedentary Life and Antiperistalsis

Again, the female tendency to sedentary life and a failure to answer "nature's calls" are factors not to be overlooked. Action is equal to reaction; antiperistalsis is equal to peristalsis, and, according to experiments of Dr. Cotton, of Boston, made by means of the X-ray, after giving bismuth pellets with food, when the call of nature is not attended to, anti-peristaltic action carries the stool back up into the bowel again. The rectum is an irritative receptacle and must be emptied. When relief to a loaded rectum is not afforded at the proper time and manner, then it must be unloaded the only remaining way, and that is back into the bowel again, where absorption of moisture from fecal matter and the consequent shock to the nerve endings results in eventual blunting of their sensibilities by these retained poisons. This leaves a hard and oft impacted mass that must eventnally be unloaded with more or less effort and discomfort. Organic changes in the bowel walls take place because

of this irritating mass and chronicity results.

Bulky Foods

Lack of sufficient bulk in the food, as the use of fine bolted flour bread, is a common cause of constipation. In a three years' practice in the South I observed that in many families where corn bread and Johnny cake were staple breadstuffs, constipation was rare.

Cellulose as found in most vegetables, such as squash, beets, beet greens, celery, lettuce, asparagus, potatoes, parsnips, carrots, spinach, brussel sprouts and cabbage, afford bulk and may well enter into the dietary with advantage. These bulky foods act because of the presence of indigestible residue in the form of cellulose. Cabbage contains 9 grains of cellulose to the ounce; parsnips. 8.6; brussel sprouts, 8; kohl-rapi, 7.8; celery, 7; turnips, 6.6; asparagus, 5; carrots, 5; beets, 5; spinach, 4.6; cauliflower, 4.6; lettuce, 3.6; onions, 3.6. About 300 grains per day is needful. Remember that meat contains no cellulose; that sterilized bran contains 200 grains to the ounce, while agar-agar or colax is composed entirely of cellulose. The German and Russian peasant keeps his bowels regulated by the use of sauer-kraut because of its content of indigestible residue in the form of cellulose.

A flesh diet with the use of white flour bread contains but very little residue and is therefore constipating. Foods in the form of combination salads, tender, green corn, lettuce and celery afford more bulk and roughage when served raw than when cooked.

Tea, Coffee and Fried Foods

Tea and coffee are constipating because of their caffein and tannin content. A cup of strong coffee contains 4 grains of the former and 2 grains of the latter. The tannin acts as an astringent and therefore would be of use in the treatment of diarrhea. It is by means of tannin that we tan leather. Evidently not just the thing to put in the stomach.

Fried foods (and how can we escape them?) need an indictment. Grease coats the particles of food, so that neither starch nor albumin can be reached by their appropriate digestive fluids, consequently the bulk of digestion falls upon the intestines; these, being overworked, perform their work imperfectly and throw a mass of fermenting and undigested starchy and other food material upon the lower bowel. This proves to be another strong constipating factor hard to overcome except by education of our cooks.

The Universally Abused Drug

Acidum Acetyl Salicylicum—Acetyl Salicylic Acid, Trade-Mark Name—Aspirin

By A. D. HEINEMANN, M.D., M.PH.,
640 Adams Street, Memphis, Tenn.

Acetyl salicylic acid, aspirin, is the universally abused drug. Of this the layman is woefully guilty, though the physician as well contributes his share to the promiscuity with which this drug—excellent in its place—is so carelessly employed. A drug of such extensive utilization is certainly worth knowing, hence Dr. Heinemann's paper, we are confident, will be widely read. Do not miss it. —EDITORS.

ACETYL SALICYLIC ACID is obtained by heating salicylic acid with acetic acid (acetic anhydrid). It is also made by the action of chloric acid on salicyclic acid, this in turn being made by the action of hydrochloric acid on acetic acid (acetyl chloride). Acetyl salicyclic acid occurs in colorless and odorless needle-shaped crystals with a slight acid taste. It is soluble in 300 parts of water, 3 parts of cold alcohol and 20 parts of ether, and readily soluble in chloroform. To show the presence of salicylic acid, add 0.1 gramme of acetyl salicylic acid in 5 c.c. of alcohol, diluted with 20 c.c. of water, and add 1 drop of a diluted solution of ferric chloride; if acid is present, it shows a violet color.

Action and uses of aspirin are same as salicylic acid and the salicyclates in rheumatism, neuralgia, gout, influenza and neuritis; also used as a sedative in many diseases. It does not dissolve in the stomach and is, therefore, not prone to irritate this viscus as do the other salicylates. Dose is 5 to 20 grains in capsules, tablets or powders, or in some pleasantly flavored vehicle.

Danger Marks and Treatment

In my experience, this drug is a heart depressant; why? Because it is a derivative of coal tar; because we no longer get a natural supply of salicylic acid, there being not enough true oil to supply the demand (gaultheria or wintergreen). It should not, therefore, be used in depressant diseases, especially where the heart muscles are involved, whether it be from the "flu," arterio-sclerosis, faulty degeneration, mitral insufficiency, or fevers which affect

action of the heart or its surroundings. If used at all, it should be in co-ordination with heart stimulants, although, as stated, I do not favor its use at all in any depressant condition. The action of the salicylates (aspirin included) depends on the accumulation of the drug in the system; therefore, to get results, large doses—or small doses repeated often—must be given. Now this accumulation, whether it be in the tissues or the circulation, is subject to certain chemical changes in our bodies, and in my opinion, untoward manifestation is the result.

The original salicylates, or taken as aspirin, undergo changes when taken internally (due to the action of the secretions on excess of the drug) and form salol and phenol. Now, brother practitioners, how many of you have been called to see a patient who was cyanosed and down and out physically? To find the cause, one should question the patient and it will usually develop that he or she is an aspirin eater—aspirin, the stick candy drug of the public; the cyanosis has probably developed from the changes of the drug and caused "phenol poisoning."

Now this is the appearance and history of an aspirin poisoning case. Two (5) grain aspirin tablets (or more) are taken one hour apart. Partial collapse, cyanosis, œdema of the eyelids and dry fauces, with or without temperature, pink lips, heavy breathing, fast pulse are present from four to six hours later; in fact, the patient is down and out. This is the picture of two cases I had, and there have been several more reported since in medical books and journals, so, brother confrere, watch this drug; it is dangerous. Treatment consists of hypomorphia, ¼ grain; atropine sulp., 1/50 grain; rest in bed, elimination, stimulation and restricted diet. The condition usually passes off in two days. So patients with heart symptoms should be watched and should not take this drug *ad libitum*, which is so extensively done now, as trouble may arise.

Incompatabilities

Never prescribe aspirin in an aqueous menstrum, for it forms *acetic acid* and, with alkalies, gives off CO_2; you thus defeat your own purpose, the final result being salicylate of soda and acetate of soda. This is a common prescription going the rounds:

Alkali and acid; sometimes the fluid extract of cascara sagrada, aromatic, is added.

℞ Acetyl salicylic acid, 1 drachm; sodii bicarbonatis, 2 drachms; elixir lactopeptone q. s. ad. oz. ii. M. et sig. dr. i. q. three or four hours.

Acids and alkalies ought never be prescribed together, and last, but not least, one ought to beware of this one—the most dangerous of all the very toxic—quinine and aspirin, which forms quinotoxin, a very toxic and poisonous substance. No deaths have been reported as yet, but some day we may learn of some fatal results.

Diet in Typhoid

EDITOR THE AMERICAN PHYSICIAN:

I notice in your November, 1921, issue quite a good many remarks by our colleagues on typhoid feeding. Especially do they condemn "milk feeding, and encourage feeding a *liberal* diet," one even "feeding more than he ate."

I am aware of the practice in recent years of feeding a liberal diet, and of which I have nothing to say, but when one condemns the feeding of milk in typhoid, he is just talking, and he would never convince me that milk is injurious, or that it is not beneficial as an easily assimilable diet. Milk is a natural food, as we know, and has all the elements of nourishment and nutrition up to a certain age, and especially is it intended by nature for the weak, feeble digestive powers of infants. And in a real typhoid infection, is it not true the digestive powers are weakened by a reduction in the secretion of the gastric glands? Then why not return to the most easily assimilable and digestible food we can obtain? Have our colleagues improved on nature?

When I read such remarks as written by Drs. Walker, McNeal and Boyd, I wonder did the above-named gentlemen have a Widal on all those cases that, upon a very liberal diet, 100 per cent. recovered and 50 per cent. upon milk diet died? Dr. Walker says a typhoid temperature of 105° will drop to 102° on good, wholesome food. I would go further and say it would *probably* and very likely, too, go below normal—following hemorrhage or perforation.

I have seen a typhoid patient, who had a positive Widal, run temperature three to four weeks with hemorrhages, and finally improve, temperature at normal for four days, patient sitting propped up, and upon eating steak died in twenty hours. Another ran about the same course, and after eating freely of biscuits when left alone, went the same route, both from perforation. I feed somewhat more liberal diet than formerly; in addition to milk. But don't tell me that a real typhoid case can eat the same diet and same quantity as a well adult. I notice also that one of the gentlemen named above condemns Brand's treatment. That's enough; I certainly do not intend to discard hydrotherapy in typhoid, and I am sorry to know there is anyone practicing from an allopathic school who would do so. I think this, next to feeding, is the most beneficial. Very little drugs are necessary, except to meet complications.

T. J. STOCKARD, M.D.

Lawrenceburg, Tenn.

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

Twenty-fifth Clinic

A Case of Injury at the Elbow Joint

THIS BOY, A. W., number 31/20, Children's Memorial Hospital, age seven years, fell down a few steps yesterday morning and, in breaking his fall with his left hand, caused some injury to his left elbow joint.

Injuries to the elbow, as you will all realize, are very important and serious, especially in children. I remember when I was a student we used to be told that the results following treatment of injuries about the elbow joint were so unsatisfactory that many practitioners, in at least one of our provinces, would not undertake the care of such injuries without getting guarantees that no legal action should be taken against them if the results should prove to be unsatisfactory to the parents.

With the discovery of X-rays we hoped that our ability to diagnose and treat these conditions would be made easier, but, unfortunately, because of the many ossific centres about the elbow joint and the late ossification and union of the various epiphyses, one is apt to be confused in endeavoring to read an X-ray of a child's elbow.

In studying the anatomy and physiology of the elbow joint we find that normally there is no lateral movement. Only flexion and extension are possible. Both of these movements are limited by the tension of the soft structures and normally by contact with bone. The bony structures check forced motion. A point of practical importance is that if the arm be extended, a line drawn from one condyle to the other passes over the tip of the olecranon. This is said to be as useful a line as that of Nelaton in the hip. If the elbow be flexed to a right angle, the olecranon lies a little more than one inch below and not quite half-way between the two condyles. It is a little nearer to the internal condyle. The humero-ulnar joint slopes obliquely downwards. This makes the axis of the extended forearm diverge outwards and gives rise to the so-called carrying angle.

Amongst the common injuries of the elbow joint are:

(1) Dislocation of the forearm backwards.
(2) Dislocation of the head of the radius forward.
(3) Fracture of the external condyle.
(4) Supracondylar and condylar fractures.
(5) Fractures of the internal condyle.
(6) Fracture of the head of the radius.

I do not believe that fracture of the olecranon process is common in children.

I should like to discuss with you the characteristics of each of the injuries named and after having discussed each individual injury I will be very glad to discuss the treatment with you because, as I have said, the treatment of fractures about the elbow in the past has often been followed by evil results; thus if it is possible for me to draw your attention to more modern methods than those sometimes used I feel that you will be forearmed and thus able to save many children from deformities and loss of function which, in the past, have sometimes followed the most common schemes of treatment.

(1) Dislocation of the Forearm Backwards

In the backward displacement of both bones there is a fulness behind, just below the bend of the elbow. The joint is usually flexed at an angle of about 140°. The head of the radius is very superficial. It lies to the outer side of the olecranon and behind the external condyle. The forearm is shortened anteriorly and broadened. In its upper part there is a deviation of the axis of the arm, limited flexion and extension and a varying amount of lateral movement. This dislocation is due to a fall on the hand, and the elbow is thereby hyper-extended and usually abducted. Occasionally it is coincident with a Coles' fracture or an atypical fracture about the lower end of one or both bones. Fractures of the olecranon, coronoid and tip of the internal condyle or head of the radius may complicate this dislocation.

(2) Dislocation of the Head of the Radius Forward

This used to be called subluxation of the radius. It is usually seen in small children. The child may be brought with a painful elbow held in a position of partial extension and semi-pronation. The arm can be freely flexed, but there is some limit in supination. The injury is almost always inflicted by a pull upon the arm, accompanied by abduction or adduction, as is seen in a sudden tug to lift a child out of danger. In this case the head escapes more or less completely from the orbicular ligament. In later life this injury is most often due to a blow from behind while the arm is pronated, to a severe twist or to a fall on a pronated forearm. The head can easily be felt lying both forward and inward

from its normal position. The three bony points maintain their relationship. There is limited supination. The head of the radius, of course, moves with the shaft and flexion is naturally checked at the elbow.

(3) Fractures of the External Condyle

Fractures of the external condyle are fairly common. Sir Robert Jones found twenty-one instances in a series of one hundred and twenty-one. The line of the fracture follows the epiphyseal line fairly closely. It runs up from the condyle into the joint in the vicinity of the trochlear groove and it carries with it a small portion of the diaphysis. The condyle is displaced upwards, not usually far, because it is held by its ligamentous attachments. One often notes both rotation and flexion of the fragment. There is a swelling, more especially on the outer side of the elbow, crepitus, mobility and impairment of flexion.

The relationship of the three points of bone are altered, the transverse diameter on the injured side being increased. This injury is due generally to a fall on the flexed elbow.

(4) Supra-Condylar Fractures

In the majority of supra-condylar fractures the break occurs above the epiphyseal line. The diagnosis of supracondyloid fracture is often confounded with backward displacement of the elbow. In both cases there is a prominence at the bend of the elbow; a prominence of the olecranon posteriorly and lateral mobility at the elbow. In the fracture, however, the three bony points maintain their relationship and crepitus can be elicited on reduction. Displacement is, however, apt to occur unless the arm be immobolized.

(5) Fractures of the Internal Condyle

Sir Robert Jones draws attention to the fact that the line of fracture in this often begins above the epitrochlear and runs to the centre of the elbow joint.

The ulna is attached to the fragment and both the condyle and ulna held in fair position by the radius. The change in the relative position of the three great bony points is, therefore, not great. The olecranon maintains its relationship to the internal condyle.

(6) Fracture of the Head of the Radius

This fracture is common and any displacement is usually outwards and forwards. It is liable to be mistaken for a fracture of the external condyle.

As we have now discussed the common injuries to the elbow, we are in a position to continue the study of the history of the patient I have brought before you.

Let me repeat, on January 21, 1920, while the boy was playing on the back steps of his home he fell five steps, breaking his fall with his left hand. A doctor was called who said that the boy had a fracture of the left elbow and for this he was sent to the Children's Hospital.

Careful examination was made of the elbow and it was found that the left arm was held in a position approximating full extension. There was swelling and ecchymosis about the elbow joint.

The finger carried up the posterior surface of the olecranon demonstrated that this lay in a position much posterior to the humerus; indeed, the finger seemed to sink into a mass of soft tissues, thus demonstrating a dislocation backwards of the forearm from the humerus. An X-ray confirmed this diagnosis.

As I have stated in my opening remarks, injuries about the elbow joint, during my studentship and in the early days of my career as a practitioner, were considered to be commonly followed with bad results, even indeed wtih disastrous results. For many years there was a tendency to fix injured elbows in angular splints closely applied and firmly bandaged, but, as Sir Robert Jones has stated, little attention was paid to forestalling by flexion the limitation of movement which the exudation of callus entails.

I think it was in 1892 that Sir Robert Jones first drew the attention of the medical world to the position of acute flexion as a safe routine in the treatment of grave elbow lesions. This position seems to be a rational one, because by flexion one can get relaxation of all the muscles on the anterior surface of the elbow, and in fractures in this region as well as in all fractures the consideration of muscular attachments and muscular function are of greatest importance. Again, it is possible to maintain reposition of the fractured portions of a bone by flexion and in this position the best possible circulation will be assured as well as the ability to observe the part injured.

A Student.—You have said that it is possible to maintain the reposition of the fractured ends. But how are we to reduce the deformity?

The Clinician.—The method used by Robert Jones is to supinate, to extend and to flex the forearm.

A Student.—One can easily see the advantages of treatment by flexion to forestall that callus foundation which will so interfere with movement that the important functions of the joint are limited, but flexion can hardly be depended upon to relieve that lateral deformity which is so common where there is a supracondylar fracture or, again, to prevent interference with extension which is not so very uncommon.

The Clinician.—Your point is well taken, but the position of flexion assures the best function in the greatest number of cases for whom non-operative treatment is chosen, as the most suitable method.

Certain deformities, as suggested, are not relieved by manual reposition and flexion. Let us take, for instance, what is known as "gun-stock deformity." This is a deformity which reminds one of a knock-knee. It is very apt to follow a fracture of the internal condyle or transverse fractures through or above the condyle. But we must remember that Sir Robert Jones has impressed us with the fact that some of the ugliest elbows present the best function, while others whose appearance cannot be criticized lack function.

I have been interested in the work reported by A. R. Shands, of Washington. Beginning in 1896 he operated on all cases in which the X-ray showed that the fragments were not properly reduced by manipulation. He says that the broken ends can be readily put in the best possible position through a small incision and held there until union is firm. After this the arm should be placed in a plaster of Paris splint with the forearm in ACUTE FLEXION.

Supracondylar fractures where the line of fracture is oblique will present some difficulty in keeping the fragments in position. Shands says: "In this class of cases it has been my custom to insert a drill at a right angle to the line of fracture through the broken fragments and to leave it for about two weeks." . . . . "I remove the plaster of Paris at the end of three weeks, when passive motion and massage are begun."

"I do not intend to say that it is necessary to adopt the operative method in every case of fracture about the elbow, for there are cases where the displacement is so slight that it will not interfere with obtaining a perfect result . . . but where the fractures are oblique or transverse with much displacement, the patient is not given the best chance of a perfect recovery unless such procedure is instituted.*

A student: Will you give us some rules to govern our procedures? When are we to treat recent injuries about the elbow and how are we to treat them?

The clinician: The deformities must be corrected without delay. All injuries about the elbow, excepting fracture of the olecranon should be fixed at an acute angle. First supinate them, extend them by traction and acutely flex the elbow. I remember Sir Robert Jones used to employ the following scheme for cases when an anæsthetic was not required.

The Patient Sits on a Chair

The operator stands before the patient with a foot on the rung of the chair on which he is seated and with his leg placed between the patient's knees.

The operator places his right thumb over the anterior surface of the head of the radius. With the left hand he pulls firmly on the wrist. Thus traction is made in a line with the arm.

The operator now presses the head of the radius with his right thumb, and at the same time flexes and supinates the forearm with his left hand. These three movements are synchronous.

Gentlemen, in closing this clinic let me impress upon you the fact that until acute flexion became the routine treatment in these cases, calamitous results were common.

Broadly speaking, we have discussed two methods of treatment.

Undoubtedly, non-operative treatment by flexion should be that of our choice in the great majority of cases, but there are a limited number of cases in which judgment will dictate that operation should be decided on in the interest of our patient.

To return to the history of our little patient, A. W.

The patient was anæsthetized and the dislocation was easily reduced by the practical application of the principles laid down by Sir Robert Jones, which we have just discussed. The arm was then fixed in a position of extreme flexion by the use of a leather collar and cuff.

On October 19th, 1920, just nine months after his injury, the patient reported at the Children's Memorial Hospital. Examination demonstrated perfect movement at the elbow.

*N. Y. Med. Jl., Dec. 22, 1920.

Use of Drugs in Neurology and Psychiatry

Of the various symptoms which demand attention from the neurologist and the psychiatrist, C. MacFie Campbell, Boston (*Jour. A. M. A.*, October 15, 1921), says the most common are pain and distress, sleeplessness, agitation and excitement. These are the symptoms for which the physician has recourse to drugs, while the complex, underlying disorders are recognized to be beyond the reach of such simple methods of treatment. As for the treatment of pain and distress and sleeplessness, the danger of a purely symptomatic treatment is well known. They are merely indicators of the underlying disturbance, and it is the business of the physician not to confine himself to the warning sign, but to penetrate to the underlying disorder. Merely to remove the disconcerting symptoms involves the double danger of neglecting the fundamental trouble, and of developing an ignoble dependence on the drug. But symptoms deserve some attention on their own account, and pain is the one which is the most insistent. For conditions of mental distress with agitation, barbital in comparatively small doses is a very useful drug. Paraldehyde is the drug which gives the nearest approach to a normal sleep, but owing to its disagreeable odor the coal-tar derivatives have been much preferred, and of the series barbital is the most uniformly satisfactory. If in psychiatry the use of drugs is somewhat limited, it is largely because in these complex disorders the chief weight in the treatment must be laid on the personal relationship between physician and patient, on the organization of the nursing personnel, and on the atmosphere of the hospital with its occupational and recreational elements. It is in virtue of the presence of these factors that treatment in hospitals is, as a rule, to be recommended in preference to treatment of the patient at home.

Footlights on the Feet

or

Puncta Dolorosa Pedis

By Charles Cross, M.D.,
California St. and Fifth Ave., San Francisco

A helpful graphic chart for anatomic review of the most troublesome points of the feet.—Editors.

In submitting this chart and this short paper for publication, I wish to bring before my colleagues a simple method for rapidly recalling the usual location of painful points of the feet.

In an examination service of many years, this chart has been very useful to me. At a glance it can be referred to to refresh the memory and recall the importance of pain as a symptom in any location of the foot. My repository of recollection of anatomical knowledge seems to have the habit of requiring more review, to keep me on speaking terms with the subject, than any other of the medical studies. Dr. Holmes is credited with saying that anatomy was a subject to learn seven times, and that it would be forgotten as often. In my case, it seems that the number should be multiplied by ten or more, to keep it with me. Therefore, charts are my helpful aids, and this one is especially useful.

Anatomy—Broken Arches

In studying anatomy of the legs and feet, reading and re-reading chapters on the bones, ligaments, muscles, tendons, blood supply and enervation and osseous development and re-reading it all over several times, something new will be found at almost every reading, and Gray's is the anatomy I recommend. A very good plan is to check off the special points dis-

- *PUNCTA DOLOROSA PEDIS* (*Painful Points of the Feet*)
  - *DORSAL*
    - Anterior Metatarsal Arch (A M A)
    - Posterior Tarsal Arch (P O S T A)
    - Astragalus
    - Cuboid.
    - Scaphoid.
    - Toe Nails.
      - Ingrowing.
      - Focal Infection.
      - Pathological.
    - Great Toe.
  - *PLANTAR*
    - Anterior Metatarsal Arch (A M A)
    - Posterior Tarsal Arch (P O S T A)
    - Os Calcis Inner Tubercle.
    - Os Calcis Outer Tubercle.
    - Calcaneo-Scaphoid Ligament.
  - *LATERAL*
    - Internal Longitudinal Arch (I L A).
    - External Longitudinal Arch (E L A).
    - Tuberosity of Fifth Metatarsal.
    - Bunion Joint Internal.
    - Bunion Joint External.
    - Malleoli.
      - Internal.
      - External.
    - Great Toe.

covered in each reading. It will demonstrate that much is gained by each review. The anatomy of the ligaments is a very important study.

To prevent broken arches and flat feet, and to rebuild broken arches, it is quite necessary to be familiar with the ligamentous arrangements before it is safe to attempt the technique of bloodless surgery, to break up adhesions, and adhesions must be broken up before it is possible to rebuild broken arches.

From an observation of many years it has occurred to me that my colleagues have not paid to the feet quite the attention they deserve. This chart and paper are published with the hope that they will aid colleagues in an interesting and entertaining review of a very important part of the body.

Recovery From Tetanus

REPORT OF A CASE

By JOHN T. MOSS, M.D.,
Memphis, Tennessee.

Tetanus is always a desperate condition. Dr. Moss has been fortunate in effecting the cure of his patient—which goes to show that it is always worth trying.—THE EDITORS.

J. W., Jr., boy, age 12, July 1, while playing in the street, stuck splinter in base of left middle toe. This the mother thought she had removed. Wound continued to discharge though.

July 11 patient complained of soreness and stiffness in jaw and neck and sore throat, which was thought to be tonsillitis. This continued to grow worse. The next morning, while playing with other children, he was offered a piece of banana, but was not able to open his mouth, at the same time the other children noticed slight convulsions and told him to go home. His condition continued to grow worse, jaws were set and spasms became hard and often. He had an extremely bad night.

I saw the patient on the morning of the 13th, about 9.30 A. M., and found him with facial muscles and jaws set, muscular rigidity throughout body, and on very slight disturbance he would go into clonic convulsions, raising himself on his heels and head. Abdomen was as stiff as a board, arms were not affected as much as the rest of the body, but stiffened when moved, unless he moved very gently. Temperature was 102 F., pulse 96, res. 28 and very shallow. He would strangle when an effort was made to swallow, but with care could be made to swallow very slowly, and only a sip at a time, without exciting spasm. Patient appeared to be in desperate condition.

Treatment

Wound was opened, cleansed, and gauze drain put in, dressings were kept wet with Dakins sol. This was continued throughout the course of the disease. Twenty thousand units of antitoxin were given, ten thousand units under skin and ten thousand intravenously, at once. No medicines were given except a large dose of castor oil, which was repeated whenever the bowel failed to act. Room was kept dark and quiet.

July 14, patient slightly improved. Twenty thousand units more of antitoxin were given intravenously, one quart of 10% glucose sol. given per rectal drip.

July 15, patient improved. Twenty thousand units antitoxin administered intravenously, one pint of glucose repeated also.

July 16, patient improved. Twenty thousand units antitoxin intravenously given again. Five grain doses of chloral ordered when convulsions were severe.

July 17, patient further improved. Twenty grain doses of bromide of potash ordered along with the chloral. Only two to three doses were given a day and these only at night, as it was then we had the most trouble. Muscular rigidity continued right along, but the convulsions were less severe and not so frequent. Temperature and pulse improved.

Convulsions had stopped by the 25th and on the date of dismissal (29th) the muscular rigidity was about 60% improved, mouth could be opened about halfway. Throughout the course of the disease appetite remained good and patient was fed freely on milk and egg albumen. He complained very little of pain at all times. Pulse and temperature were both elevated while taking antitoxin.

July 22, a small splinter about one quarter of an inch long was removed from the wound, or rather did the splinter remove itself.

August 13, patient came to my office to see me. At this time he looked well but said there was still some stiffness over the body, and I could see that he could not control the facial muscles as well as he normally should. He had no pain at this time.

I consider recovery principally due to sufficient antitoxin, aided also by castor oil and nourishment which is preferable to filling the patient with medicine, upsetting his stomach and thus hindering his recovery instead of helping it.

Acromegaly and Lymphatic Leukemia

REVIEW OF LITERATURE

By Hyman I. Goldstein, M.D.,
1425 Broadway, Camden, N. J.

Walton's case of acromegaly was a man 44 years of age. His feet measured 12¼ inches in length. The measurement of the hand from the carpal border of the palm to the tip of the middle finger is 8¾ inches, the width is 4½ inches. The cranial circumference is 26 inches, and the chest circumference is 46 inches.

His patient complained of muscular pains and weakness, vague sensations of numbness and prickling without real inability to feel objects, pains in various parts of the body, and paresthesiae.

Walton divides the symptoms into (1) those of disordered metabolism, excessive growth of osseous and connective tissue structures; (2) symptoms of pressure, such as cranial nerve paralysis, pyramidal tract paralysis, and diabetes mellitus, optic nerve atrophy from pressure of the nerve against the orbital plate, and preceding the atrophy, various disturbances of the visual field resulting from pressure upon the optic commissure, either anteriorly or posteriorly, the most common finding being a loss of vision for objects on the temporal side of the field. Hemianoposia appears less frequently, and is due to pressure on the optic tract behind the chiasm; (3) general symptoms—headache, somnolence, lack of mental vigor, resulting from pressure and from disorder of the pituitary secretion. Paresthesiae and pain seemed to be due to irritation and pressure caused by increase of connective tissue about the nerve fibres.

Acromegaly is a steadily increasing disorder of nutrition, due to primary pituitary disease and excess of its glandular secretion. In Walton's case there were no double vision, impairment of eyesight, disorders of olfactory sense, or other cranial nerve-function, no headache, vomiting, somnolence, or loss of memory, no spastic gait, no local paralysis, and disturbance of reflexes. There was good vision, the fundus as in my case was normal, and the visual field was complete.

If hyperphasia affects the pituitary gland in infancy, gigantism results, the long bones growing rapidly longer till a height of 7 or 7½ feet is reached. It is only when the glandular portion of the hypophysis is diseased that acromegalic symptoms appear. Although acromegalics are usually large and appear strong, they are generally weak, tire easily, and have no "pep."

Guy Hinsdale's prize essay on "Acromegaly," of 87 pages, including a complete bibliography of 7½ pages, appeared in "Medicine" (Detroit) in 1898. It is a most thorough and complete review of the subject.

M. Pierre Marie (1886), about thirty-five years ago, first described this condition, and reported cases of acromegaly as well as cases (1890) of hypertrophic pulmonary arthropathy.

Cases have been reported of acromegaly with Grave's disease, with myxedema, with mental disease, with diabetes mellitus, diabetes insipidus osteitis deformans, gigantism, elephantiasis, chronic rheumatism.

Berkley's (1891) case occurred in a negro. G. Ranzier (Rev. de Med. ii, 1891, p. 56) discusses the diagnosis of acromegaly and pulmonary osteo-arthropathy. In Medicine (Detroit), 1898, pages 823 to 830, will be found a complete list of references to the literature on acromegaly to that year.

M. Sternberg classifies acromegaly into three types:

(1) A benign form. Duration about 50 years, changes slight.

(2) Usual chronic form. Duration, 8 to 30 years.

(3) Acute malignant form. Duration, 3 to 4 years. In this type the pituitary is sarcomatous.

Dalton's (1897) patient was a man aged 23 years, who died of diabetic coma in King's College Hospital. The symptoms of diabetes had only been observed during the last two months. The liver weighed 96 ounces and look quite normal. The thymus was very large, and consisted of two symmetrical lobes, each five inches long, the pituitary body distended the sella turcica, and projected well above it. The lymphatic glands by the pharynx, in the posterior mediastinum, and in the mesentery, were large, soft, and pale, but in other parts of the body (axilla, groin, etc.) they were not enlarged. The suprarenals were normal. The thyroid was moderately large and quite firm. Dalton remarks the enlargement of the pituitary body appears to be essential to acromegaly, and the thymus and thyroid appear to be constantly enlarged in this disease. He concludes by saying that in his case there were enlarged organs—pancreas, liver, and thyroid, with glycosuria and myxedema.

Dallenmayne's (1895) case was similar to Dalton's in that there was acromegaly with diabetes and enlargement of all the viscera, the liver weighing 200 ounces and the pancreas 7 ounces. (Arch. de Med. Experiment, et d'Anat Pathol., Paris, vii, 589, 1895.)

Mitchell and LeCount, in the New York Medical Journal (1899, LXIX, April 15, April 22, and 29), give a necropsy report of a case of acromegaly and a critical review of the recorded pathological anatomy in the literature. The liver and spleen are enlarged in a large number of cases of acromegaly that came to autopsy. The thyroid gland was found enlarged in half of the cases that were examined at necropsy. The enlargement of the pituitary body has been due to adenoma, sarcoma, or other neoplastic growths in the great majority of cases examined. In thirty necropsies the kidneys were found enlarged twenty-one times.

Bourneville and Bricon, Dolega, Niépec (five cases), and Osler have reported cases of cretinism in which either absence or atrophy of the thyroid gland was accompanied by enlargement of the hypophysis. Boyce and Beadles, in a case of myxedema with atrophied thyroid, found a compensatory enlargement of the hypophysis and in a case of sporadic cretinism with entire absence of the thyroid, the hypophysis was also enlarged. LeCount states that acromegaly does not depend upon a hyperplasia of the epithelial elements of the anterior lobe, for numerous cases are on record in which no symptoms of acromegaly were evident, and yet similar changes in the hypophysis to those seen in acromegalic cases were found present.

Mussalango (1892), Tamburni (1894), Benda

(1901), Modena (1903), and Fischer (1910), consider acromegaly the result of an hyperplasia or adenomatous condition of the anterior lobe of the hypophysis. Some believe the enlargement of the hypophysis to be only one feature of polyglandular syndrome, and that it is the result, rather than the cause, of acromegaly. However, while some disturbance undoubtedly underlies the gradual hypertrophy of the anterior lobe in acromegaly, clinical and anatomical evidence support the fact that bone changes follow instead of precede the hypophyseal hyperplasia.

Caselli and Cushing, working on dogs (with feeding and injection experiments), and Aldrich and Miller, working on white rats, were not able to produce "acromegaly or gigantism"—no overgrowth in puppies, or acral changes in old dogs were produced. As a matter of fact, these feeding and injection experiments not only do not increase the stature of animals, but retard their growth and stunt them. Parisot in his experiments found no noticeable changes with repeated injections of anterior lobe extracts into adult dogs, nor in puppies injected with small doses. With large injections in young animals, diminution in weight resulted. On the other hand, hyposecretion of the anterior lobe of the hypophysis is accompanied by bone changes exactly opposite to those of hypersecretion.

Neal's (1898) case of acromegaly occurred in a woman, aged 41 years. Total duration of disease, 18 to 19 years. The thyroid gland was enlarged, weighing 6½ ounces. The thymus gland was not seen. The spleen was greatly enlarged, and weighed 18 ounces. No actual enlargement of the bones of the hands or the feet was present. The pituitary tumor showed a remarkably uniform structure of polyhedral cells, somewhat large in size, and without visible intervening substance. In general characters, the cells resemble those of the anterior lobe of the pituitary body. The changes are classed by Shattock as under the head of hypertrophy, because the enlarged body everywhere is encapsuled, and the surrounding bone is uninvolved. The pituitary gland was remarkably enlarged and measures 2½ inches in the vertical direction.

Morris (N. Y. Path Soc'ty Proc. 1907, vii, 19) reported a case of acromegaly in a German, a driver, aged 33 years. He was admitted to Bellevue Hospital in December, 1902, and died four years later (Jan., 1907). He was in Dr. Frank W. Jackson's service. Duration of illness was four and a half years. He complained of persistent frontal headache and attacks of vertigo. Gradually increasing loss of vision, ending in double optic nerve atrophy and complete blindness. Recurrent epileptiform attacks occurred. Glycosuria for 22 months. Splanchnomegalia was not present. Thymus was persistent; weight 70 grams. The tongue was very large and broad. Maximum breadth was 7 cm. and measuring 11 cm. from apex of tongue to apex of circumvallate papillae. Lingual tonsils were large. Thyroid gland was symmetrical and normal in size and appearance. The only lymphatic hyperplasia that was noted was found in the larynx and pharynx, the splenic follicles of the spleen not being hyperplastic. A tumor 5x4.5x3 cm. was found on the inferior surface of the right frontal lobe, and was connected by a broad pedicle to the pituitary gland proper, which was enlarged, the spheroidal pituitary mass being 30 mm. in diameter. The pituitary tumor, in its growth, has enlarged the sella turcica, and pushed aside the spheroidal cells and the clinoid processes. Spleen weighed 510 grams, being almost double in weight. The capsule was wrinkled. Pancreas was large and weighed 170 grams, being 1/6 above normal in relation to body weight (90.9 kils. in wt., length of body 5 feet 8¼ inches).

The tumor showed many spheroidal or oval cells, grouped in irregularly shaped lobules or alveoli by delicate capillary walls, apparently composed only of endothelial lining. The tumor is extremely cellular and very vascular.

Tamburini (1897) reported upon thirty cases with autopsies. He found that all had tumors of the pituitary—either a simple hypertrophy of the gland, or a total involvement in an adenoma, in which were preserved the principal elements of the gland. Tamburini (Archiv. de Neurologie, 1897, Tome V, p. 621), found the pituitary gland was never atrophied in acromegaly, and that acromegalic symptoms were absent in cases of pituitary tumors where the gland was diseased and atrophied, and where its function has been lost. He therefore concluded that hypersecretion was the etiological factor of acromegaly. Brooks (1898) in his excellent paper, also supports this view.

Sternberg, in his study of 210 cases, found six acute cases, in all of which there was a true sarcoma of the hypophysis. Brooks believes these sarcomatous cases were incorrectly diagnosed, and that they were probably all of them adenoma or hyperplasia.

According to Sternberg, 20% of the acromegalics are over 177 cm. in height, that is 5'11", and 40% of all giants are acromegalics. Giantism and acromegaly are therefore frequently associated.

Percy Furnivall (1898) reports on a case of acromegaly in a man aged 58 years, a commissionaire. The man was admitted to the St. Bartholomew's Hospital complaining of weakness, nervousness, and enlargement of the feet, hands, and lower jaw. He suffered from numbness, weakness, and trembling of his hands. Circumference of the head at the level of the external occipital tuberosity, and the superciliary ridges, was 23¾ inches. Round the front of the lower jaw, from angle to angle, is 9½ inches. The liver, spleen, and pancrease were natural. The thyroid was slightly enlarged. No trace of the thymus gland was seen. Lungs showed well-marked emphysema. The pituitary tumor consists of an enlarged anterior lobe, the seat of an adenomatous tumor, or a simple hypertrophy, affecting the central zone of the anterior lobe, which had degenerated and become cystic in its central part. While M. Sternberg, in his monograph on "Acromegaly" (1897), collected 47 cases with post-mortem reports, Furnivall was able to collect 7 more cases, making a total of 49. He includes in his review an analysis of these 49 cases, in all of which the hypophysis was found to be affected.

Gumma of the pituitary has been reported by Weigert (1875), Barbacci (1891), Beadles (1897), Hunter (1898), and some others. No acromegalic symptoms were mentioned in any of these cases. The four cases mentioned occurred in women, aged 64, 41, 41, and 47 years, respectively.

Hunter's case (1898) of acromegaly occurred in a driver, aged 52 years. He complained of shortness of breath and sweating. Body was 5'9", spleen weighed 6 ounces, natural. There was no enlargement of sella-turcica, and the pituitary appeared normal in size. On section it appeared extremely

vascular, the glandular substance increased but normal. Thyroid gland was enlarged, weighing 1½ ounces, firm, red hypertrophied. The changes found were principally those of hypertrophy of the pituitary and thyroid, kidneys, bones of head, hands and feet, thigh and legs, and hypertrophy of the skin of the hands.

Rolleston's (1898) case was a woman aged 35 years. Her headache, which was extremely severe, was relieved by a combination of pituitary and thyroid extracts. She had several epileptiform fits for several months before her death. There was a soft, creamy tumor of the pituitary body. The sella-turcica was very deeply excavated and as large as a walnut, the posterior clinoid processes were markedly displaced backwards, as the result of pressure exerted by the growth. The brain weighed 49 ounces. The thymus gland was persistent though not hypertrophied. The thyroid was normal in size. The liver was enlarged, weighing 76 ounces. Spleen, 8 ounces in weight, was normal. Microscopically, the pituitary growth was a medium-sized round-celled sarcoma. The brain and petrous bone had been invaded by the sarcomatous neoplasm. The disease had lasted three years. The epileptiform fits and intense headache were due to the cerebral involvement. Osborne's and Williamson's cases were also sarcomata of the pituitary. In Woolcombe's (1894) case of psammoma of the pituitary body, no symptoms of acromegaly occurred. In Osborne's case splanchnomegaly was well marked. The heart weighed 41 ounces. Liver weighed 7 pounds, 2 ounces. Spleen, 36 ounces. Thyroid weighed 101 grams. There was also an accessory thyroid in the thorax, weighing 36.5 grams. The man was 47 years old; duration of disease, 24 years. The sarcomatous growth in this case was probably implanted on an old-standing and previously existing cystic condition of the pituitary body.

Pierre Marie found glycosuria present in one-half the cases. Hinsdale found it in 14 out of 130, while Von Hansemann found it in but 12 of the 97 cases he collected. In one of Strümpell's (1888) cases it would appear and disapper at intervals.

According to Sajous' views, a nervous center exists in the hypophysis, and the several ductless glands are connected by a nervous pathway. Diabetes of hypophyseal origin is the result of an irritation, a disturbance produced in this nervous centre, in the same way that the nerve-path in its bulbar course is influenced by puncture of the fourth ventricle. Loeb believes it to be due to pressure exerted on the structures at the base of the brain, and of course cerebral tumors, developing from or in the neighborhood of the hypophysis, are the most likely to cause glycosuria. He believes a centre regulating the mechanism of sugar exists in this region.

Konigshoffer, Oppenheim, Rath, and Weil have reported polydipsia with polyuria without glycosuria.

Atrophy of the genital organs may occur. In many instances, even though there may be an enlargement of the genital organs, there is usually a diminution of desire and potency which may progress to complete loss of the sexual function. In my case there was total loss of function for several years, with a return of the sexual desire and function during the past two years.

Pechkranz and Babinski were among the first to report changes in the genitals. Roubinowitch reported a case studied by Marie, who developed acromegaly after childbirth and showed progressive atrophy of the organs of generation. Launois and Cesbron conclude that sexual atrophy can form part of the hypophseal syndrome, but that it is not invariably a consequence of tumors of the hypophysis.

Bartels and Götzl and Erdheim reported cases with a lowering of the internal temperature. (91 2/5° F. to 96 4/5° F.) In myxedema, too, we may often get low temperature readings.

In his original description, P. Marie clearly separated the two dystrophies—acromegaly and gigantism. However, this view has been disputed by numerous investigators. In 1889, Virchow stated that acromegaly was a secondary condition of degeneration succeeding upon the excessive growth.

Fritsch and Klebs, Langer, Taruffi, Tamburini, Cunningham and others, in examining the skeletons of giants, found the characteristic deformities of Marie's disease, and Massalongo concludes that acromegaly was nothing but a delayed abnormal form of gigantism.

J. Finlay Alexander discusses fully the subject of hypertrophic pulmonary osteo-arthropathy in his thesis in St. Bartholomew's Hospital Reports (1906, XLII, pp. 41-78), and reports five cases of this condition that he has seen, with a review of 103 cases on record. As to the differential diagnosis he states that hypertrophic pulmonary octeo-arthropathy does not occur without clubbing of the fingers, but clubbing is not hypertrophic pulmonary osteo-arthropathy, and no case ought to be considered genuine unless, in addition to the clubbing, there are bone changes. These latter can easily be proved by skiagraphy, which ought always to be employed.

Acromegaly has on occasion masqueraded as hypertrophic pulmonary osteo-arthropathy; but the changes of the extremities in the former disease are hypertrophic, with maintenance of the normal proportions, whereas in the latter there is marked deformity. With acromegaly are associated changes in the facial bones and cartilages of the ears, nose, and eyelids, as well as nervous symptoms.

Other symmetrical conditions which may be mistaken for hypertrophic pulmonary osteo-arthropathy are rare, for a simultaneous affection of bones and joints is most uncommon apart from hypertrophic pulmonary osteo-arthropathy. In secondary syphilis, for instance, there may be symmetrical synovitis in certain joints, generally the knees, and in congenital syphilis symmetrical hypertrophy of the tibiæ, with anterior curvature about their centre. These two conditions are not found together, and either, occurring separately, ought to be readily recognized.

Osteo-arthritis is distinguished by the creaking of the joints and the definite osteophytic lesions.

Though in patients suffering from syringomyelia there may be symmetrically swollen joints, with enlargement of the bones in the neighborhood. This condition is not lasting, but gives way to atrophic changes which disorganize the joints; moreover, the changes of syringomyelia are generally asymmetrical, while dissociated anæsthesiæ, muscular atrophies, vasomotor and paralytic symptoms serve to mark the disease.

Alexander's conclusions are:

1. The condition known as hypertrophic pulmonary osteo-arthropathy consists essentially in a deposit of new bone on the shafts of longbones.

2. A constantly associated but not peculiar phenomenon is clubbing of the fingers and toes.

3. The disease is mostly found as an accompaniment of lesions which result in copious and chronic

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Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practitioner must be recognised. Other divisions of medical service must be properly co-ordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

Some Factors in Success That Are Often Forgotten

It's Easy to Be an Individualist, But It Takes Many Good Qualities to Be a Personality

INDIVIDUALITY and personality are often mistaken for each other. The dictionary definition of individuality is, "separate or distinct existence; oneness." Any fool can be an individualist, but it takes many good qualities to be a personality. Personality is variously defined. Robertson said: "Personality is made up of three attributes—consciousness, character, will."

Nearly every quack prides himself on his individuality; he believes in self-determination. Take most any cultist, say, Mary Baker Eddy, who invented Christian Science; Still, who inaugurated Osteopathy; or Palmer, who started Chiropractic, and they were all individualists. There is no limit to individualistic interpretations except the number of the people in the world. The individualist who is fantastic enough in his theories to attain to publicity can always get a certain following. The patent medicine business is an illustration of this fact, and, as well, of the further fact that advertising pays in dollars and cents. It takes advertising, whether free or paid for, to put across the individualistic propaganda; but the poor or unworkable propaganda ultimately fails out despite advertising, while the good one that is practical and workable, always helped by advertising, remains as an asset for years and years. Good propaganda, or good business, while it may have a certain individuality, *must* have personality.

The physician may "sell" his individualistic theory or method for a while; but the doctor, while often called an individualist, is so merely in a social sense unless he is also a narrow bigotist or egotist. The average physician, in his beliefs and methods, is very far from being an individualist, for medicine as we have it today is an accretion which took centuries to elaborate. In this it differs radically from any cult or pathy.

The Successful Doctor is a Personality

One is often amused in reading attacks made against "so-called authorities." That sort of thing is just as futile as unwarranted war against majorities, for no man becomes an "authority" unless he is so recognized by a respectable majority of persons interested in the subject he has studied, investigated and written about.

Yet a physician never becomes an "authority" simply by believing what his predecessory colleagues taught; he must develop and add to their teachings, from a firm foundation building a new structure. It may be that the foundation proves defective for the more modern super-structure, and if so it must be strengthened, not torn out and discarded. "Authority" must be constructive of facts and theories in harmony with the truths painfully worked out by preceding generations. An entirely new proposition may be advanced by a scientific man, but he proposes it simply as a theory, the truth or falsity thereof to be determined. Relativity, for instance, is a new proposition, but it is based on mathematics, astronomy and physics. For this reason discreet men are willing to entertain it as a fit subject for study, whereas, if it denounced mathematics, astronomy and physics the scientific reader would read no farther than the preface to Einstein's book. Then why should physicians feel called upon to give any credit whatever to a new theory that denounces chemistry, physiology, biology, and bacteriology?

The doctor of real personality, of consciousness, character and will, always respects "authority," both past and present; he works from premises of respectability and soundness. He is not servile to authority, for he knows that errors have always existed along the whole pathway of knowledge and that he is apt to make mistakes himself.

The "Doc" and the Doctor

You know the difference between these two men, and that no real authority is ever called "Doc" by any courteous person and, in fact, by very few discourteous ones. And how much does "Doc" leave behind him when he dies, either in prestige or property? Rarely very much.

It is the easiest thing in the world to talk through one's hat, as the saying is, to denounce a thing one does not understand. Once in a while one encounters a physician of this caliber, who is carping and critical of medical and scientific advances he has been too lazy to study. How far does he get with the public? Ask his wife, who has trouble to get market money from him and who leads a discouraged existence. It is "Doc" who is responsible for the low estimate often placed on the medical profession. He is the chap who takes up every hare-brained easy way of practice that verges on quackery, who writes prescriptions for mere patent medicines, and he does it because he does not know therapeutics. He is the chap who denounces hospitals, the medical societies, the health authorities and the competent physicians in his own community. The harm he is doing, in these days of cults and unrest, is infinite. He has no personality worth while, is a rampant individualist, is utterly incompetent as a physician, a failure from the financial standpoint, and he is a menace to public health. The only difference between him and the out-and-out quack is that the latter has more brains and enterprise than he has and usually knows more about modern medicine.

It is time we realize that the medical profession is on trial. Medicine *itself* is *not* on trial, for the general public knows its great achievements and honors it, even though people may experiment with the cults more or less. But the profession in the aggregate *is* on trial, for the public estimates the profession on the basis of its personnel actually in practice. We know very well there are many men in practice who are utterly unfit; then why do not the medical societies do something about it?

Coming Down to Brass Tacks

The present writer, who has the hard and thankless job of being a state official in addition to his practice, has two lists on his desk as he writes this. One list is very lengthy, and in it are the names and records of physicians whose record of violation of law is taken from the court archives, or they are proved or admitted drug addicts or inebriates, or they are abortionists or guilty of other malpractice. One by one evidence is proved up and these men are given hearings and their licenses to practice medicine suspended or revoked. It is a tremendous task to get witnesses to testify against any of these men, that is, medical witnesses. There yet remain on this docket a long list of men in practice who are menaces to their communities; and just as soon as charges are brought against them delegations of reputable physicians come down to the Capital with protests which, boiled down, say: "Let the poor devil alone. Why he is a graduated M.D., and the profession can't afford to raise a stink over him." Nevertheless, the public health comes first, and the only concession this official makes is to give these men sixty days to reform, and, if they are hopeless, to make their hearings and the action taken as private as may be.

The other list is the one submitted by the federal government of physicians whose purchases of narcotic drugs are enormous—from 130 ounces a year down. The only comment necessary is this: all of the hospitals of Philadelphia combined use about 90 ounces a year. Are these large individual purchasers fit to practice? Doctor, make your own answer.

A Reeking and Small Minority

Now, these men are not all criminals at heart; many of them are of the class of individualists who are out of step with the great majority of reputable and capable men in the profession, who are ignorant and who justify themselves on the basis of their so-called medical prerogative to do as they jolly well please, and it is no one's business what they do; and they know very well that, soon as they get in trouble, several decent doctors will come to their defense, and, as well, the ward politicians. Yet they constitute a reeking minority in the medical profession. It only takes one dead rat between the walls of your house to make it an unfit place to live, and you get that corpse if you have to tear off half of the weatherboarding to find it. The record on this desk shows at least one dead rat in the medical profession in nearly every town of ten thousand people in the state. Doctor, do you do anything to "get" him? You do not. And because you do not, and will not, that is why people say nasty things about the medical profession; and that is one reason why the cultists have such an inning. This is not a pretty story, but the writer is absolutely in position to know exactly what he is talking about and has the names of these dead rats in the profession and the facts concerning them. Without the help of the profession he has a hard task to "get" these men; and he is threatened, cajoled and sworn at whenever he does "get" them. But he should worry! It is the reputable profession that should do the worrying. Doctor, do YOU worry any over these things?—you who get righteously indignant over the bootlegger, the lay drug peddler, the crooked druggist, the incompetent midwife, and any other crook who does not have an M.D. after his name. Bring your indignation closer home and you will accomplish more, especially if you will testify to what you know and help to procure evidence. Also, when you vote, do you ever cast your ballot for a crook?

The Splendid Majority

There is not in any other profession, not even in the Christian ministry, a more splendid majority than is found today in the medical profession; and there is no other profession that in the last forty years has made such tremendous advances. The scientific bases of medicine are proved, and, as well, many of the clinical ones. We have every occasion to be enthusiastic over our calling and to defend it through thick and thin. The splendid majority in modern medicine are men of *personality,* of force, of character and

(*continued one leaf over.*)

Bowel Torpor in the Elderly

is usually the result of a progressive atony of the bowel, with a gradual decrease of the natural mucus and other secretions. The loss of moisture dries the feces and interferes with their free and easy passage. Under such conditions

INTEROL

serves as a safe and efficient substitute for the physiologic secretions. Following its systematic use, the bowel contents are kept soft, the intestinal canal—especially the large intestine—is adequately lubricated, and the feces are passed along and evacuated in due time without straining, pain, or discomfort. INTEROL thus constitutes an ideal medium for the relief of bowel torpor in patients of advanced age.

DIRECTIONS:
In treating the elderly, begin with a tablespoonful morning and night on an empty stomach, increasing or decreasing as conditions require.
Sample and Interol brochure on request.

Allied Drug and Chemical Corporation
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The Dropsy of Chronic Bright's

demands efficient treatment directed not only to the removal of effused fluid, but also to overcoming circulatory stasis and strengthening the overburdened heart.

ANASARCIN TABLETS

secure prompt and prolonged action and effect without danger of cumulative action or disturbance of gastric or renal function. ANASARCIN TABLETS also meet the indications present in loss of compensation from cardiac valvular lesions, post-scarlatinal dropsy. Also by their steadying and regulating action upon the heart in Exophthalmic Goitre and Cardiac Neuroses. It needs only a trial to convince.

Sample and literature on request

THE ANASARCIN CHEMICAL CO. **Winchester, Tenn.**

will; they are fully conscious of the wonderful outreaches of their calling and its service in the world. *Majorities are accustomed to rule,* and it is its own fault if the majority does not rule. Herein is a lesson for the medical profession to take to heart.

A Word to the Doctor of Little Faith

Doctor, you may be discouraged; you are fighting, perhaps, a lone battle against disease in an isolated community. Sometimes you forget the splendid faith within you and lose heart because the mammon of unrighteousness is arrayed against you and your profession. Just decide *now* that you will be a *personality,* not a mere petty individualist. Keep in touch with your fellows; some of them may be budding authorities, and you may become one yourself if you try hard. Study hard. Read the writings of authorities who are recognized as having arrived. Get to know these men and attend their clinics, and you will realize how hard they work and how tolerant they are, how big as men and doctors. You can do the same thing as they have done if you get away from narrow individualism and decide, come what may, to be a *personality.*

Charges are made in this article—well sustained charges. To show where the responsibility rests in making them, the writer signs his full name.

THOS. S. BLAIR.

Acromegaly and Lymphatic Leukemia

(*Continued from page* 288)

pus formation, such as bronchiectasis, chronic pulmonary tuberculosis, and empyema, and is an indication of a chronic intoxication.

4. Other intoxications, such as those accompanying cirrhosis of the liver, are capable of producing the disease.

5. In rare instances the bone changes characteristic of hypertrophic pulmonary osteo-arthropathy appear apart from evidence of chronic suppuration or any chronic intoxication. For such cases no explanation is at present forthcoming.

6. It is not improbable that more detailed and systematic examination of long bones, by the aid of skiagraphy, would reveal the bone changes of this disease in many chronic intoxications. Digital examination is an insufficient criterion of the deposit of new bone when such deposit is only of slight extent.

7. When the bone changes appear rapidly there is a marked tendency towards an associated synovitis in neighboring joints.

Souza Leite (1890) pointed out the fact that in nearly every case of acromegaly it was possible to demonstrate an enlargement of the pituitary gland. Greene observed his case for a period of three years. The patient was a young man aged 25 years, an ice-cutter. At the age of 20, he noticed a rapid enlargement of the hands and feet. In this case the larynx was enlarged, and its cartilages hypertrophied. The fundus oculi was normal. The radiograph demonstrated the remarkable enlargement of the bones both in length and thickness. The lower jaw was not prominent and features of myxedema were present. Examination of the blood revealed nothing abnormal. The treatment consisted solely in the taking of thyroid extract, which caused an immediate and marked amelioration of the myxedematous condition.

He emphasizes the diagnosis of acromegaly from osteitis deformans (enlargement of skull and shafts of the long bones), myxedema, and pulmonary osteo-arthropathy.

Mullally reported 3 cases of acromegaly with one autopsy. The first case was a French-Canadian female aged 61 years—complaining chiefly of headache, weakness, and deformity of features. She had 11 full-term children. Shortly after her menopause at the age of 50 years, she observed a change in her features, her nose and lower lip began to gradually enlarge; nearly two years later her tongue began to get longer and it gradually increased in size, and interfered with phonation. Her skin became roughened and coarse. Akyphosis of the upper dorsal region was present, there were no ocular symptoms and her thyroid was not enlarged.

Case 2. Female Galician, aged 50 years. Complained of changed features, cough, dyspnœa, weakness, palpitation, pain over the heart. She had 10 children. The last was born at 34 years. She, her husband and all the children (after reaching the age of 10 years) had enlarged necks (goitrous district). X-ray examinations showed evident enlargement of the Sella turcica.

Case 3. French-Canadian female, aged 64 years. Complained of shortness of breath, palpitation, lump in throat, deformity. She had two children. Shortly after her menopause (at 45-50) she noticed enlargement of her features. Then her hands and feet got larger. Her tongue enlarged and her speech became thick. Headache and dyspnœa were prominent symptoms. R. B. C. 7,380,000, Hb. 110%, W. B. C. 8,000. At autopsy were found: enlarged pituitary, hypertrophy of adrenals and thyroid, myxedema of tissues of body, acromegaly, enlargement of lungs and bronchi, adenoma of adrenal. Fibrosed and cystic ovaries. Dilated and hypertrophied heart. Hands large and spade-like; fingers enlarged and resembled sausages. Feet enlarged. The pituitary weighed 10 gms. (about 20 times larger than normal) and measured 4 cm. vertically and 2.5 cm. transversely. The enlargement is made up entirely of the anterior lobe. Microscopically there is evident a great hypertrophy of the anterior lobe, merely an exaggeration of the normal cellular arrangement. There is entire absence of acidophilic cells, all the cells are basophilic. Corpora amylacia are numerous and stain deeply. The posterior lobe shows no abnormality. The thyroid is greatly enlarged, weight 185 gms. (about 6 times larger than normal). The lungs were voluminous, edematous and slightly emphysematous. The acini were dilated and their epithelium denuded. The heart was very large, weight 615 gms. Liver weight 1660 gms., spleen weight 235 gms. and measured 12x8x5 cm. Left adrenal was bulky and weighed 18 gms. The right adrenal weighed 7 gms. Large extra-cortical adenomas were present. Sections of adrenal showed uniform hypertrophy. The pancreas weighed 180 gms. and measured 21x4x1.5 cm.

In Geddes' case, the patient was also a female, aged 50. The pituitary weighed 15.55 gms. (the normal weight being 0.5 gm.). The thyroid weighed 312 gms. being very large and goitrous. Thymus was not enlarged. The adrenals weighed: right 9 gms. and the left 9.5 gms., normal weight being 6 gms. In this case the pituitary was 30 times the normal size, the thyroid 10 times and the suprarenals were increased 50%. The ovaries were small and apparently functionless. The posterior pituitary was

(continued one leaf over.)

A frank talk about Postum to readers of "The American Physician"

Every doctor and nurse knows that caffeine—under certain conditions, or used to excess— may prove a source of extreme detriment to the nervous organism, and to the digestive function.

Caffeine, in overdoses, excites irritability of the sympathetic nervous system and unduly stimulates the cerebral cells.

The ordinary cup of tea or coffee carries anywhere from 1½ to 3 grains of caffeine—a maximum dose, even where definite stimulation is required.

What its action is where sedation is demanded, or where any stimulant action may be contra-indicated, has been definitely determined by able clinicians, both in this country and abroad.

If not the direct cause of various nervous abnormalities, it is at least, an accessory factor.

Why not avoid the deleterious influences of tea and coffee excess by giving your patient rich, delicious Postum instead?

Postum is a pure cereal beverage that is preferred by many even to the finest coffee, for its flavor alone.

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apparently normal. The enlargement of the anterior lobe was due to simple hyperplasia, and not to an adenoma.

Exner reported two cases where the pituitary had been operated upon for the relief of acromegaly, and later hypertrophy of thyroid occurred.

Marengli produced in rabbits, hypertrophy of the pituitary by removal of the adrenals. Gemelli, Mullally, Horsley, Ascoli, Aschner, Filney and others consider the hypophysis unessential to life, and that this small organ is not a vital centre.

Caselli, Panlesco, Livon, Pironne, Cushing, Gatta, and others consider the pituitary as an essential organ. In both the Geddes' and Mullally cases that came to autopsy, there were present hypertrophied pituitary, enlarged thyroid, and adrenals and atrophied ovaries.

Kaufmann's case was a young man aged 23 years. He was anemic, the lips thick and prominent. (Birmingham Med. Review, XLIII, 1898, pp. 308 and 360.) Kyphosis was most pronounced. No central nor peripheral defect of the field of vision was present. Slight proptosis caused the outer field of each eye to be increased in extent beyond the normal. No enlargement of the thyroid gland was present. The patient had a secondary anemia, which may have dated from the *lead-poisoning* 50% R. B. C. and 50% Hb. The patient's sexual function has been diminished. There was no disturbance of vision or hearing. Headache was slight.

Charles Spencer Williamson (Med. Clinic of Chicago, Vol. I, No. 5, March, 1916) reported a case of acromegaly of long standing without subjective symptoms. The man was a motion picture operator, 30 years of age. The man grew 5 to 6 inches in height during a period of 12 years and gained 90 pounds in weight. At the time Williamson reported the case, he weighed 230 pounds with a height of 5 feet 6½ inches. At no time has he had any subjective symptoms of any sort; no loss of sexual desire or power was complained of. The first thing that attracted his attention was the progressive enlargement of portions of his face, hands and feet. The most noticeable thing about him was the shape of his head, particularly the enlargement of the jaw, the nose and the lips. The lower jaw protruded very nearly an inch beyond the upper, and was well shown in the x-ray picture.

Fraenkel (1901) reports four cases of acromegaly with post-mortem findings. A tumor of the hypophysis was found in each case. The posterior lobe was intact in all four cases. The hereditary character of acromegaly was evident in one case. One case was not the complete type of acromegalia, but seemed rather a transition between this and gigantism.

Greene states that there can be no doubt concerning the close relation of acromegaly to gigantism, and he regards it as a sort of localized gigantism, due to certain limitations in the pathologic seat and process, or to the age at which it begins. Greene (1901) found 300 cases of acromegaly on record in the literature.

Hymanson (Med. Rec., July 1, 1899, pp. 14-15, Vol. LVI, No. 1) reported a case of acromegaly in a Russian Polish woman aged 39 years. She was maimed at 19. Had 5 children, 4 living and well. Spleen was normal. She was under his care for more than two years. Striking improvement took place on feeding with thyroid extract ½ grain t. i. d. She later also received pituitary extract grain I t. i. d. He believes his case was one of acromegaly with myxedema.

Bartlett (Arch. Int. Med., pp. 201-213, August, 1913, No. 2, Vol. XII) reported a case died at the age of 25. A year before his death he noticed that his hands were getting larger, he had slight headaches. Two years prior to this, during his married life, he had been extremely passionate. About 6 months before his death he began to lose his sexual desire and soon after became impotent. He became moody, forgetful and irritable. Polyuria became marked. Diaphoresis became very intense, soaking all the bed-clothes during the night. Body was 6'3" long. The superficial lymph-nodes were all slightly enlarged. The retroperitoneal and mesenteric lymph-nodes were markedly enlarged. The mediastinal and cervical lymph nodes were enlarged and quite firm. Thyroid gland was twice the normal size (65 grams). Thymus was persistent (weight 22 grams and total length is 85 mm.) Three small accessory thymi were found distributed among the cervical lymph-nodes. Liver weighed 2100 gms. Spleen weighed 360 grams. Adrenals were normal. Parathyroids were slightly larger than normal. A chromophil cell adenoma of the anterior lobe of the hypophysis and enlargement of the pineal gland, with atrophy of the cells of Sertoli and of Leydog were noted. The pineal gland was twice the normal size. Bartlett reviews some of the cases of pineal tumor on record in the literature.

Chevalier Jackson (J. A. M. A., November 30, 1918. Vol. LXXI, pp. 1787-1789), advises the systematic examination of the larynx not only in every case of acromegaly, but also in every case of hypophyseal abnormality. He reports four cases to illustrate the importance of recognizing laryngeal involvement in acromegaly. He concludes that:

1. The larynx should be examined in every case of hypophyseal abnormality.

2. The overgrowth characteristic of acromegaly in some cases involves the laryngeal cartilages and soft parts.

3. Acromegalic changes in the larynx may produce stenosis sufficient to require tracheotomy to prevent asphyxia, dyspnoea being added to by impairment of the glottic movements, resulting in a defective bechic cycle.

4. In three out of four cases, the laryngeal mucosa was normal. In one, the chronic laryngitis present was probably a coincidence.

5. In three of the four cases, the laryngeal image was not symmetrical, though the laryngeal enlargement seemed so by external palpation.

6. In all cases of apparent hyperplasia of the larynx, acromegalic overgrowth should be listed for diagnostic exclusion.

7. Laryngeal examination should be recorded as a routine in all cases of hypophyseal abnormality, for the accumulation of data.

8. Altered voice in acromegaly may be due to laryngeal changes as well as to alteration in the resonating cavities, lingual enlargement, etc.

Loewenberg's case was a white man aged 34 years, a Bulgarian; a blacksmith. This was an (apparently) acute case of acromegaly. The man had clubbing of the fingers with well rounded finger nails. The enlargements of the fingers and toes were acute in onset. In this case, too, the ring on the ring finger had to be sawed off in order to prevent necrosis of his fingers. X-ray showed a calculus in the pituitary.

(*continued one leaf over.*)

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The intermittent enlargement and infiltration of local parts, as the hands and face, in Loewenberg's and other reported cases, were undoubtedly due to changes in the soft tissue covering the short and flat bones, and not to osseoris changes.

Engelbach classified the disorders of the hypophysis and he dwells also on the results of basal metabolism and carbohydrate tolerance studies in these cases. The results in his cases were very variable and indefinite. Thus, in the *posterior lobe* disturbances, it appears that the basal metabolism was decreased in hypopituitarism and increased in hyperpituitarism, while the carbohydrate tolerance was increased in hypopituitarism and decreased in hyperpituitarism. Geycosuria and hyperglycemia was absent in hypopituitarism and present in hyperpituitarism.

In the simple anterior lobe dyscrasias, 7 cases of his series had a metabolism (basal) rate varying from the normal. In 5 cases it was decreased, varying from 2 to 3% and in 2, it was increased 14 and 15% respectively. In one case in 'which anterior lobe extract was given therapeutically, the basal metabolism was increased from 30 to 80% during 6 weeks' treatment, with a relief of other symptoms such as muscular fatigue, loss of libido, headache, and mental disability, etc. In the hyperactive conditions of the anterior lobe in 4 cases, basal metabolism was normal in 2, and increased in 2.

In 10 cases of anterior lobe dyscrasia, Engelbach found 7 showed a decreased carbohydrate tolerance and 3 an increased tolerance. Of the hypopituitarism cases, 5 showed an increased and 2 a decreased sugar tolerance.

In 53 of the 61 cases diagnosed as posterior lobe disorders (58 of which were hypoactive posterior cases) the sugar tolerance was increased, and in 5 decreased. It appears, therefore, that the influence of the secretion of the posterior lobe upon metabolism, from Engelbach's studies, was more definite in its relationship than those changes of metabolism associated with the simple anterior lobe dyscrasias.

Engelbach's case XI, a man aged 52, covers a period of forty years—from the age of 12. Polyuria was a prominent feature of the case. The maximum amounts of urine varied from 10,000 to 20,000 cc. daily. The diagnosis was bilobar pituitarism, preadolescent, non-neoplastic type, heteroactivity. Originally this was a case of hyperactivity of both lobes of the pituitary gland, followed recently by a hypoactive period. The polyuria, polyphagia, and polydipsia were all very favorably affected by a high altitude. Pituitrin caused a marked increase in the polyuria. Sugar tolerance was decreased. This case showed classical markings of acromegaly with the onset and throughout the course of the polyuria, from the age of 12 to 37. After a polyuria of 25 years' duration, there occurred a glycosuria, hyperglycemia, and decreased sugar tolerance. Engelbach states this case presented evidence of associated anterior lobe hyperfunction (acromegaly) during its initial course, and a related hyperfunction (glycosuria and hyperglycemia) of the pars nervosa during the late course of the polyuria. Basal metabolism was decreased in this case (hyposecretion of the pars intermedia). Adrenalin seemed to greatly intensify the polyuria in this case.

Pituitrin, according to Engelbach, should be used for polyuria (diabetes insipidus) in pituitary disorders, only in cases where there is a definite hyposecretion or insufficiency of the infundibulum or the posterior lobe of the hypophysis. In those cases in which polyuria, etc., is associated with a hyperfunction of the gland, pituitrin would aggravate all symptoms as in the case just quoted. In these hyperactive pituitary polyurias, X-ray, radium, and glandular substances physiologically antagonistic to the hypophysis should be tried. Surgical intervention may be advisable in very rebellious cases.

Schaefer, Webster, Jangeas, Cavazzini-Bergamo, and others have reported very favorable results obtained in tumors and hyperactive conditions of the hyphysis. In Schaefer's series of 8 cases of hypophyseal tumors, with acromegaly, treated by X-ray, 6 showed definite improvement. Cavazzini-Bergamo reported good results from X-ray therapy in 2 cases of pituitary tumor with acromegaly.

Benedict, W. L. (Am. J. Ophthal., 1920, 3, 571-584), says ocular phenomena develops early in cases of pituitary tumor. My case is unusual, in that although the sella is very large no ocular symptoms are present. Tumors of the hydrophysis rarely metastasize elsewhere (Budde-Munchen, Med. Wchnschr., 1920, 67, 820-827); in Budde's case of hypophyseal carcinoma with glandular and pulmonary metastases there were observed symptoms of increased brain pressure and other changes, but symptoms caused by the metastasis were observed preceding those from the hypophyseal. No acromegalic changes were noted. The cancer destroyed the whole gland.

In *Herman Feit's* case of "Hypophyseal Cachexia" (Med. Klin., Berlin, 1920, XVI, 421-422), due to syphilis, there were symptoms of hypopituitarism and cachexia. The patient was beardless, and his face yellow, he had a boyish voice, and he had undeveloped genitals, polyuria and polydipsia. His *blood* showed 50% small lymphocytes, 5% large lymphs., 43% polys. and 2% eosinos. No changes in the sella were seen, and no acromegalic changes noted. Although the symptoms improved after two salvarsan injections, the increased lymphocyte count was not reduced.

Oberndorfer (München. Med. Wchnschr., 1920. 67. 946-948) describes some cases of hypophyseal and adjacent tumors. He mentions a case of rudimentary acromegaly in a man aged 40 years who died from acute yellow atrophy of the liver. He had two enormous toes. Autopsy showed an enlarged posterior pituitary lobe, the eosinophil cells invading the posterior lobe. He describes a case of acromegaly with dystrophia adiposogenitalis, in a man aged 21 years. No trace was found of hypophyseal tissue. The gland had been replaced by hen's egg size tumor. In addition, he reports several cases of dystrophia adiposogenitalis due to tumor of the pituitary. Three were women, aged 21, 39, and 63 and a man aged 55 years. No acromegalic changes were noted in these cases.

Foerster's (Deutsche Med. Wchnschr., Berlin, 1920. 46, 1066) case showed an enlargement of the sella turcica without acromegalic changes. Patient was a man aged 37, suffering from dystrophia adiposogenitalis.

In Semerak's (Trans. Chicago Path. Society, XI, June 1, 1920, No. 3, pp. 87-98), three cases of tumors of the hypophysis, acromegaly was not present. In his first case, that of a Polish laborer, aged 28 years, the large feet and long extremities would indicate hyperfunction, which later was followed by dystrophy, but Semerak states that the length of the extremities may also be ascribed to the atrophy of the genital glands before puberty (Brown-Sequard) and in this case the testes were very small. Semerak remarks that according to Benda, Erdheim and Lewis, it is only the increase in eosinophile cells which gives rise to acromegaly. He gives this as the rea-

(continued one leaf over.)

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son for the lack of changes of the bones in his third case, notwithstanding the marked hyperplasia of the anterior lobe. This patient was a man aged 52 years, weight 143 pounds, who had a tumor of the hypophysis cerebri, diagnosed as a basophile-cell adenoma.

In *Jewesbury's case* (Lancet, April 26, 1913, p. 1169, I), a woman aged 36 years, although the sella torcica was very much enlarged, and there was absorption of the posterior clinoid processes, ocular symptoms were absent. The discs were normal and there was no diminution of visual fields. She was free from headache. The thyroid gland was very definitely and uniformly enlarged. No glycosuria was present. There were marked scoliosis and kyphosis, the hands and feet were very large, and she had a "Punchinello chest."

T. Reuell Atkinson was able to study his case of acromegaly for eleven years (Brit. Med. Jour., p. 1111, May 13, 1911, and p. 270, February 2, 1901). In his case, sight continued to be normal. No hemianopia was present. He was drowsy, and perspired freely. He became somewhat bow-legged, especially on the left side.

Howard reports four cases of acromegaly with symptoms of hyperpituitarism, and adrenalin tests that suggested hypoadrenalism. He also includes in his paper two cases of dystrophia adiposogenitalis (Froehlich syndrome). He emphasizes the importance of the role of the hypophysis in carbohydrate metabolism, and states that it seems definitely established that the pars intermedia is directly concerned in carbohydrate metabolism and that hypertrophy, if it causes polyuria, diminished carbohydrate tolerance, or even frank glycosuria, while hypoplasia or degeneration of the pars intermedia will result in a high degree of sugar tolerance. In the early stages of acromegaly, therefore, it is common to find a decreased sugar tolerance; in the latter stages of hypophyseal disease, when the pars intermedia has been destroyed by pressure or by invasion, increased sugar tolerance is to be expected. He considers the determination of the sugar tolerance as the most accurate and only scientific method for an estimation of the activity of the internal secretion of the hypophysis, thyroid gland, and pancreas.

Karl Csèpai (1914) suggested the conjunctival instillation of adrenalin or pituitrin and the subcutaneous injection of both—for the study of the diseases of the endocrine glands. Csèpai noted that exaggeration of the reaction indicates diminished function of the adrenals, and that in cases in which adrenalin reaction was positive (i. e., the blanching was prolonged), the carbohydrate tolerance was increased or normal.

Csèpai found that adrenalin given subcutaneously in hypophyseal cases, caused either no increase or, at the most, a slight increase in the total leukocytes, with, however, a slight relative increase of the neutrophiles at the expense of the mononuclears and to a less extent of the eosinophiles. He concluded, therefore, that any variation from the leukocytosis indicates pituitary (or disease of the ductless glands). Falta pointed out that the subcutaneous administration of adrenalin causes a distinct leukocytosis, with an increase in the neutrophiles at the expense of the mononuclear and eosinophilic cells.

(Note: Normally, Csèpai has shown that three drops of a 1 to 1000 adrenalin solution will cause in a few minutes a slight or moderate blanching of the conjunctival sac, which will persist for 10 to 20 minutes. He also found, in normal cases, that after the subcutaneous injection of 5 mg. of adrenalin, there was a marked increase of the systolic blood pressure of 30-60 mm. In the hypophyseal, and other endocrine diseases, he found no such increase in the blood-pressure—in all of these, the conjunctival reaction or blanching was prolonged. Howard's results were quite different, however, in the study of his six cases.

Howard concludes that: a secondary hyperpituitarism may result from a greatly or rapidly increasing intracranial pressure; that the determination of a decrease in the sugar tolerance in the presence of other symptoms of disturbance of pituitary function justifies a diagnosis of increased activity of the pars intermedia; that the adrenalin conjunctival test may be of positive value in certain cases of dyspituitarism in showing a hypofunction of the chromaffin system; that the internal administration of the pituitary extract of either the whole gland or the anterior or the posterior lobes appears to be without any definite influence.

Labbe's patient was a miner aged 48, who had hypertrophy of the pituitary and acromegaly with diabetes. The glycosuria was greatly improved by pituitary treatment. There is probably some irritation of some centre in the base of the brain that is responsible for the diabetes and the polyuria in these cases. The pituitary treatment did not relieve the polyuria in Labbe's case. It suggests that the sugar metabolism is under the control of a complex physiologic apparatus that comprises the liver, the pancreas, the nervous system and the ductless glands. Disease in any part of this apparatus may suffice to bring on diabetes. The diabetes occurring in some acromegaly cases is a type of nervous diabetes in which the disturbance in the control of sugar metabolism seems to be of the same nature as in liver or pancreas diabetes.

Book Reviews

Principles of Medical Treatment

By George Cheever Shattuck, M.D., A.M., Assistant Professor of Tropical Medicine, Harvard Medical School, Formerly Assistant Visiting Physician, Massachusetts General Hospital. Fifth revised edition. With contributions by the following authors: "Tuberculosis," John B. Hawes, 2d, M.D., Assistant Visiting Physician and Director of the Clinic for Pulmonary Diseases, Massachusetts General Hospital, Consultant for Diseases of the Chest for the New England District of the United States Public Health Service; "Acute Infectious Diseases Most Common in Childhood," Edwin H. Place, M.D., Physician in Chief of South (Contagious) Department, Boston City Hospital, Assistant Professor of Pediatrics, Harvard Medical School; "Influenza," Gerald Blake, M.D., Associate in Medicine, Massachusetts General Hospital, Instructor in Medicine, Harvard Medical School; "Diabetes Mellitus," Benjamin H. Ragle, M.D., Assistant Physician to Out-Patients, Massachusetts General Hospital; "Serum Treatment of Pneumonia," Henry M. Thomas, Jr., M.D., Resident Physician John Hopkins Hospital. W. M. Leonard, Inc., Publishers, Boston, 1921.

"Principles of Medical Treatment" is essentially a compend. It covers a good deal, but briefly—too briefly perhaps to justify its title. In spite of the fact that this is the fifth revised edition, and that, as the respective forewords announced each succeeding edition has been improved and enlarged—the student —compend type of tabulated brevity still predomi-

(Book Reviews continued one leaf over)

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nates. Otherwise the book covers the ground real well. Those who prefer words and statements to paragraphs and chapters will, no doubt, find here what they want, and plenty of it.

The Blood Supply to the Heart—In Its Anatomical and Clinical Aspects

By Louis Gross, M.D., C.M., Douglas Fellow in Pathology, McGill University, and Research Associate, Royal Victoria Hospital, Montreal. With an introduction by Horst Oertel, Strathcona Professor of Pathology, McGill University, Montreal. With twenty-nine full-page plates and six text illustrations. Paul B. Hoeber, New York.

This is an excellent work on the blood supply of the heart and of undoubted anatomical and clinical value. It is presented from rather an original angle and covers its ground admirably well.

Essentials of Laboratory Diagnosis

By Francis Ashley Faught, M.D., formerly Director of the Laboratory of the Department of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Seventh revised and enlarged edition. Cloth, 523 pages, elaborately illustrated. F. A. Davis Company, publishers, Philadelphia, Pa. Price, $4.50 net.

This work has been a standard for practitioners and students since 1909, but the advance of the subject has been so rapid that each new edition has practically been rewritten, as is the case with this seventh edition. The book has expanded and should be given a new name, since it is no longer a mere compend on "essentials" but is a fairly complete guide to the whole subject of laboratory diagnosis. Yet the volume still seems familiar, since it aims to keep within the limitations of the practitioner of modern training and chemical dexterity. We heartily commend the book to the profession.

Autoerotic Phenomena in Adolescence

An Analytical Study of the Psychology and Psychopathology of Onanism—By K. Menzies, with a Foreword by Dr. Ernest Jones—Second Edition—$1.50—Paul B. Hoeber, 67 and 69 East 59th Street, New York.

The pendulum of sexual knowledge of our day seems to be swinging between two extremes—on one hand, total ignorance, on the other, too much "enlightment" on this delicate subject. We are yet to see the clear, comprehensive, *tactful* work on this vital but dangerous problem of surging, restless civilization. The terms of "conflict," "repression," "subconsciousness," "complex," "libidio" and the like, with which the little book is sprinkled, color it much with "psychoanalytical" and Freudian paint. Apparently the author is carried freely by the waves of this ultra-modern school. With all said, the little volume is undoubtedly earnest and fairly interesting, and while presenting nothing new, has nevertheless a compilation of facts well worth reviewing.—Ed.

Pneumonia

By Frederick Taylor Lord, A.B., M.D., Massachusetts General Hospital. Cloth, 70 pages. Harvard University Press, Cambridge, Mass. Price, $1.00.

This little book is one of the series of Harvard Health Talks and is a non-technical presentation of the whole subject of pneumonia in such manner as to be useful to intelligent laymen and to the profession. Naturally, the element of prevention is stressed. The whole series is admirable and may be procured at the price of $9.00 from Randall Hall, at Cambridge, or from the Harvard University Press, at 15 West Forty-fourth Street, New York City.

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The grinding surfaces of teeth are the most subject to decay, and it is here that cleanliness is of the utmost importance. Dr. R. B. Waite's Anti-Py-O Dental Cream contains vegetable soap which forms a fine lather and quickly enters all the finest interstices. Special sample tubes and a full-size tube for your personal use will be sent to AMERICAN PHYSICIAN readers. Turn to page 254 and send in the coupon.

The Value of Liquid Petrolatum

A prominent authority of international reputation who has made an exhaustive study of the therapeutic value of liquid petrolatum, says that laxatives of all sorts increase the spasticity of the intestine, whereas liquid petrolatum lubricates and protects the sensitive surface of the spastic bowel, at the same time softening the intestinal contents so as to permit passage through the bowel without mechanical irritation.

Nujol is especially suitable for all forms of intestinal constipation. It is the achievement of an organization of fifty years' experience in the making of similar products. Interesting booklets will be sent to physicians, turn to page 307 and send in the coupon.

Worth Your While to Look Into This

If you have a case of spinal weakness or deformity under treatment now—no matter whether it is an incipient case or one seriously developed, it will be worth your while to look into the Philo Burt Appliance. The scientific Philo Burt method, which allows absolute freedom of action, and which lifts the weight of the head and shoulders of the spine and corrects deflections, has benefited thousands of spinal cases. You owe it to yourself and your patient to give it a trial, which by the very liberal policy of the makers can be made at their expense. Appliance is made to measure for your case, and thirty days' trial is given, money returned if not satisfactory. Write today for Physicians' Portfolio and illustrated booklet and plan of co-operation with physician—there is no charge. Address: Philo Burt Company, 115-16 Odd Fellows' Temple, Jamestown, N. Y.

When Appetite Lags

Every physician has been up against the problem of tempting the appetite, especially the fickle appetite of convalescence.

But some of us have not known that few fruit-foods offer the same rousing flavor—the tart, tangy "relish" characteristic of dried apricots. Nutrition tests show that the salts and organic acids in dried apricots improve the quality of the blood and react favorably on the secretions.

Many appealing, appetizing and nutritive dishes can be easily made from this year 'round fruit. The Sunsweet Recipe Packet gives them and is yours for the asking. Address: California Prune and Apricot Growers, Inc., 480 Market Street, San Jose, California.

(Helpful Points continued one leaf over.)

ANUSOL
(Trade-Mark)
Hemorrhoidal SUPPOSITORIES

"Efficient and Safe to Use At Any Time of Life"

The outstanding characteristic of Anusol Suppositories, and the one enthusiastically commented upon ever anew by physician and patient alike, is

Their ability to allay and check the distressing pain and inflammation of Hemorrhoids so promptly and completely,

In the total absence of narcotic, or any other habit-forming, or injurious ingredients.

We guarantee it. Besides, the formula is on every label.
That's why you can employ Anusol Suppositories from childhood to old age, with absolute peace of mind.

Ample Trial Quantity and Literature from

SCHERING & GLATZ, INC., 150 Maiden Lane, New York

Benzylets

take the place of opium

in so many pathologic conditions that their use in "the morphine habit" seems quite logical and the reported results are in the main good.

The dosage depends upon conditions, the rule seems to be to begin with two or three and repeat as often as required.

Benzylets
in boxes of 24
at your druggist's

SHARP & DOHME
sole makers

DON'T SEND THE POOR FELLOW AWAY, DOCTOR!

EVERY DAY doctors are advising a rest, a trip to a sanitarium, a visit to a specialist, an operation—anything to get rid of their old, stubborn cases of

Prostatic Disease and Impotence

Maybe you are doing, or are about to do this very thing. You are losing possibilities of dollars and prestige, *to say nothing of the satisfaction of having won a hard fight.*

Too many of these cases are passed up by good doctors, only to fall into the hands of unscrupulous men who offer nothing but promises and frequently give less.

YOU CAN GET RESULTS

in many of these cases. If you will try *SUPPOS. PROSTANS* thoroughly in one or two cases you will surely convince yourself and will thereafter *keep the business you've been turning away.*

There is nothing secret about *Suppos. Prostans*—formula with each box.

If after a fair clinical test you feel that the results do not more than meet all your expectations, we hereby agree to refund your money upon request. This offer places the burden of proof upon us at our own expense.

Remember, Doctor, that your immediate order means a clear saving of $4 to you. It seems a duty to your patients to mail this before other matters cause you to lay it aside, and save that much time for other things—tomorrow.

Fill out the coupon now.

Sincerely,
REGENT DRUG COMPANY.

This Coupon Means Success and Money Saved as Well, Fill It Out. Send Today

REGENT DRUG COMPANY,
3152 Woodward Ave., Detroit, Mich.
I enclose $5.00, send me six boxes of Suppos. Prostans (worth $9.00) also the above book and "Successful Prostatic Therapy"—free.

The Burden of Proof Rests Upon Us.

Name .....

Address .....

An Effective Drugless Laxative Food

The hygroscopic properties of agar agar and the vitalizing qualities of the entire wheat grain, combined, as they are in Mansfield Agar Agar Wafers, form an ideal, drugless, laxative food.

You will find them effective in treating even stubborn cases of constipation due to intestinal atony.

These wafers, originally produced at the suggestion of physicians, have been used by physicians for ten years, with unvaryingly good results. The manufacturer will be glad to send a package to AMERICAN PHYSICIAN readers, so that you can test out their effectiveness. Address: The Mansfield Laboratories, Inc., 18 Chandler Street, Boston, Mass.

Have You Reserved Your Copy

The new third edition of Harrower's "Practical Organotherapy" is ready for immediate delivery. The new edition contains most of the old features and many new ones—fifty new chapters; larger page; larger type; better in every way.

Send your order now for a copy—enclose a dollar bill, and if this big, new, cloth bound, 416 page book, does not suit you to a "T" your money will be promptly returned, on request. The regular price of the book could well be $4.50—but a dollar represents the entire cost to you. Sent on approval, if you prefer. Address: The Harrower Laboratory, Box 68, Glendale, Calif.

Write for Your Copy

The growing interest in yeast as a therapeutic agent has made it essential that physicians should have at their disposal some book of reference which will summarize in an authoritative way the present known facts about yeast.

This information, so necessary for the busy practitioner, has been ably brought together in a book entitled "The food value, therapeutic value, manufacture, physiology and chemistry of yeast, also a symposium on vitamins," written by a physician for physicians.

The Fleischmann Company, Dept. S 4, 701 Washington Street, New York, will gladly send a copy of this book to you, free of charge. You will find this information valuable to you in your practice, write for your copy today.

Begin Now on Hay Fever Patients

Now is the time to do what you can for your hay fever patients with pollen extracts for cutaneous tests and treatment.

Arlco-Pollen Extracts, for cutaneous tests and treatment, cover early and late spring types, also summer and autumn types. Literature and list of pollens will be sent to AMERICAN PHYSICIAN readers, address: The Arlington Chemical Company, Yonkers, New York.

Merits Your Attention

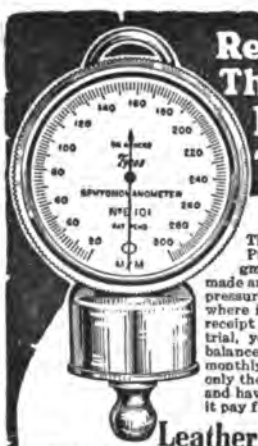
Instant Postum is a product which merits your attention. There are cases where tea and coffee are contra-indicated, where they are the cause of real injury to the patient.

You will find it much easier to get your instructions carried out if you can, at the same time, direct the patient to a pleasing beverage in place of the interdicted one.

Postum is a pure cereal beverage, that has a particularly satisfying flavor. A few days' trial in neurasthenic cases, for example, may show you some very interesting and definite results.

Samples of Instant Postum, with full information, for personal or clinical trial will be sent upon request, address: Postum Cereal Company, Inc., Battle Creek, Mich.

(Helpful Points continued one leaf over)



Rent This TYCOS Nine Months Then It's Yours

$2.50 Monthly Brings It

The new 1922 model celebrated Blood Pressure Apparatus, Dr. Rogers' Sphygmomanometer is very accurately made and registers both systolic and diastolic pressures. The cash price of the Tycos everywhere is $25.00. We will send it to you on receipt of only $2.50 and, if after ten days' trial, you wish to keep it, simply pay the balance—$22.50—the same as rent—in nine monthly payments of $2.50 each. You pay only the cash price (no interest—no extras) and have nine full months in which to make it pay for itself.

Leather Case and Booklet Free

With every Tycos is included **Free** a genuine morocco leather case. You can put your Tycos into this case and carry the entire instrument in your pocket. Besides the case, we give you **Free**, a 44-page booklet which explains accurately, thoroughly and plainly just how and why the Sphygmomanometer is essential to the intelligent practice of medicine.

Ten Days' Trial—Money Back

Send today. Just sign and mail the coupon below—enclose $2.50 for first month's rent and we will immediately send you the instrument and you will only have to pay $2.50 each month until the cash price, $25.00, is paid in full. Send that $2.50 today. Remember, we give ten days' trial and return your money if you are not satisfied. The price for all cash with order is just the same, $25.00.

SIGN AND MAIL COUPON

A. S. ALOE CO. Factory Distributors. 551 Olive St., St. Louis, Mo.

I enclose first payment, $2.50, for which send me Dr. Rogers' TYCOS and Outfit on ten days' trial as per your offer. I agree that the title is to remain in you until paid in full.

Name .....

Address .....

Clinical Evidence



proves the most satisfying results are obtained by prescribing

Pluto Water

in cases of habitual constipation, gout, rheumatism and all cases when a uric acid solvent is desired.



Many practitioners direct convalescent patients to the spring for rest and complete treatment where can be found two well-known members of the American Medical Association with trained assistance.

French Lick Springs Hotel Co.

French Lick, Ind.

Organotherapeutic Suggestions

A rational measure in the treatment of INFLUENZA is to encourage the invariably depleted adrenals by using

ADRENO-SPERMIN CO.
(Harrower)

One, q. i. d; in acute conditions 2, t. i. d. is proved to be rational *because it is effective*. It opposes the asthenia, hypotension and peplessness that is so common.

Have You Made Your Reservation
for a copy of the new third edition of Harrower's

"Practical Organotherapy?"

The present edition contains most of the old features and many new ones—fifty new chapters; larger page; larger type; better in every way.

This New Book is Ready for **Immediate** Delivery

Send your order for a copy at once—enclose a dollar bill; and if this big, new, cloth bound, 416-page book does not "suit you to a 'T' " your money will be promptly returned on request. The regular price of this book should be $4.50, but a dollar represents the entire cost to you and the book will be sent on approval if you prefer.

The Harrower Laboratory
Box 68, Glendale, Calif.

Creo-Tussin in Whooping Cough

IF YOU ONLY KNEW the excellent results physicians are getting from the use of Creo-Tussin in whooping cough you would not be without it for, as one physician stated, "good results are evident the first night."

Physicians who are unfamiliar with Creo-Tussin are requested to write us for sample and literature. Please use attached coupon.

The Maltbie Chemical Company, Newark, New Jersey

Creo-Tussin

is a palatable solution of creosote, gelsemium, passiflora, yerba santa, menthol and aromatics. Conveniently put up in 2 oz. bottles with blank labels for directions, each bottle in plain carton.

Price—Dozen 2 oz. $4.00, Pint, $2.40

Cut Here and Mail Today

THE MALTBIE CHEMICAL CO., Newark, N. J.

Please mail sample Creo-Tussin to

_____ *M. D.*

A. P. 4-22

Your Infant Feeding Problems

Nestlé's Milk Food offers the practitioner a modified cow's milk—in powdered form—that is so simple and convenient in its preparation for use, that all danger of error or incidental contamination is reduced to a minimum. All that it requires is the addition of the requisite amount of water to a given quantity of the Food, and boiling for one minute.



NESTLÉ'S MILK FOOD

A liberal supply of samples for professional use and copies of "The Mother Book" for distribution to your patients sent on request.

Nestlé's Food Company

Nestlé Building, New York — 112 Market Street, San Francisco

A Therapeutic Aid in Difficult Cases

Many physicians have not been satisfied with therapeutic results in their cases of whooping cough; and also it has been difficult to give relief in asthma and bronchitis. In this regard it is interesting to note the results some clinicians have been getting with Diatussin. A Detroit physician says: "Diatussin positively relieves, and comes as near a specific as I would wish in whooping cough."

You will find it, as have others, a most efficacious therapeutic aid in the treatment of asthma, bronchitis and whooping cough, for children or adults.

Ernst Bischoff Co., Inc., 85 West Broadway, New York, will send you a sufficient trial quantity of this excellent product, so that you can prove its efficiency yourself, also interesting literature giving case histories. Write them today for samples and literature.

New Bulletin on Serobacterins

We have recently seen a copy of the latest edition (the fifth) of Mulford Working Bulletin No. 18, on the subject of "Serobacterins."

The text is illuminated with several diagrams and charts, which are very helpful in conveying a clear idea on some of the points and advantages claimed for these products. There are also a number of authoritative reports, covering both experimental results on laboratory animals and clinical results in actual practice, together with a comprehensive bibliography, suggestions for dosage, etc., all calculated to prove interesting and helpful to the medical and pharmaceutical professions.

Copies of this new bulletin may be had by addressing H. K. Mulford Company, Philadelphia, Pa., and mentioning THE AMERICAN PHYSICIAN.

Standard Synthetic Improved

Atophan has been manufactured for quite some time past in the manufacturing plant of Schering & Glatz, Inc., at Bloomfield, N. J.

The product is made by a special process, which entirely eliminates the possibility of unpleasant empyreumatic admixtures, and thus still further improves this standard synthetic in the treatment of rheumatism, gout, neuralgia, neuritis, sciatica, migraine and "retention" headaches.

Schering & Glatz, Inc., 150 Maiden Lane, New York City, will be glad to send a trial box of Atophan Tablets to AMERICAN PHYSICIAN readers on request.

Are You Treating These Cases?

If you have been turning away stubborn cases of prostatic diseases and impotence, feeling that you had not a treatment that would give a reasonable expectation of success—you will be interested in the advertisement of the Regent Drug Company, on page —. The company is making a special offer, but more than that, they guarantee to refund all money—if after a clinical test the treatment, in your opinion, does not give results. Which means that the burden of proof rests on them.

Results Evident the First Night

If you knew, as many physicians have learned from experience, the excellent results from Creo-Tussin in whooping cough, you would not be without it. The good results are evident the first night.

It is made very easy for you to try this excellent product, with no expense and the least possible trouble to you. Sample and literature will be sent gladly. Just turn to page 305 and send in the coupon.

(Helpful Points continued one leaf over.)

Lubrication and diet in intestinal stasis



A Normal Colon



General Displacement of the Colon into the Pelvis in Intestinal Stasis

A recognized authority says that the administration of liquid petrolatum adds to the effectiveness of the routine treatment of intestinal stasis (such as diet, etc.) by lubricating the bowel, softening the fecal mass, and easing its passage to the rectum and final expulsion.

NUJOL is the most effective liquid petrolatum for use in the treatment of intestinal stasis. Its capacity for penetration and lubrication of the feces is unsurpassed.

In determining a viscosity best adapted to general requirements, the makers of Nujol tried consistencies ranging from a water-like fluid to a jelly. The viscosity of Nujol was fixed upon after exhaustive clinical test and research and is in accord with highest medical opinion.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis. See coupon below.

Nujol

REG. U.S. PAT. OFF.

A Lubricant, not a Laxative

Nujol Laboratories, Standard Oil Co. (New Jersey)
Room 765. 44 Beaver Street, New York

Please send booklets marked:

☐ "In General Practice"
☐ "A Surgical Assistant"
☐ "In Women and Children"
☐ Also sample

Name .....

Address .....

USOLINE
The ORIGINAL
Russian Mineral Oil

USOLINE was the first mineral oil put on the market in this country. It has never been extensively advertised, and exaggerated claims have never been made for it, therefore physicians have been steadily and increasingly prescribing it for internal use year by year.

We again present to you USOLINE as a highly refined 100% imported Russian Mineral Oil, with properly adjusted gravity and viscosity; containing no sulphur or acid impurities, no bloom or fluorescence and no taste.

The consensus of opinion of eight leading cliniciane favored Imported Russian Oil (see A. M. A. Journal, Vol. 64, p. 808).

For clinical test, a 6 oz. bottle of USOLINE will be sent you free. Write for it.

OIL PRODUCTS CO., Inc.
50 Union Square, New York, N. Y.

The Prevention of Influenzal Colds

The experience of the past three or four years has definitely shown the great importance of painstaking attention to the personal hygiene in preventing influenzal infections. Especially important in this direction is frequent disinfection of the nose and mouth, together with thorough cleansing of the hands several times a day.

For these purposes there is no antiseptic or disinfectant more serviceable and effective than Dioxogen.

For nose and mouth infection, one part Dioxogen to six or seven parts of warm saline solution will be found remarkably effective used as a gargle or nasal douche.

To cleanse the hands, wash thoroughly with soap and water, after which apply a solution of Dioxogen and warm water—equal parts, rubbing this in well, especially around the nails.

Dioxogen thus employed has been conclusively proven of invaluable aid in preventing the development of influenza and other acute infectious diseases.

The Treatment of Menstrual Irregularities

The many and varied functional disorders of the female generative organs will nearly always yield to persistent treatment with Genitone (Viburnum Compound —Merrell) because this remedy provides a most palatable uterine tonic and these troubles are usually due to atonicity. Amenorrhea, dysmenorrhea, and menstrual hysteria require prolonged treatment, but eventually yield if the use of Genitone in one or two teaspoonful doses three times a day is persisted in. For threatened abortion, the patient should be given one teaspoonful of Genitone in hot water every hour until the danger is past. Many helpful suggestions regarding the treatment

(Helpful Points continued one leaf over.)

TAUROCOL
TABLETS
(TOROCOL)

A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien
FOR
Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS
(TOROCOL)
With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.
DETROIT, MICH.

A Stand-By in Uterine Troubles

VIBURNO
(BEACH)

The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles
Sample and Formula on Request
THE VIBURNO COMPANY
116 Maiden Lane, New York



COMBINES the delightful qualities of effervescence with the well-known digestive properties of Peptenzyme.

The powerful and effective action of Peptenzyme, supplemented with the tonic and refreshing effects of effervescence, thus insures both

PERMANENT BENEFIT AND PROMPT RELIEF

in gastralgia, nervous and fermentative dyspepsia, flatulence, atonic indigestion, and to relieve the gaseous fermentation that usually causes so much discomfort in digestive disorders.

It is palatable to the nth degree and gives the physician a cooling and refreshing beverage, free from any hint of medicine, yet pregnant with therapeutic value.

Converts the Distresses of Indigestion into a Smile

SOMETHING NEW

PEPTENZYME EFFERVESCENT GRANULES

REED & CARNRICK
JERSEY CITY, N.J.

TESTOGAN — For Men

THELYGAN — For Women

Formula of Dr. Iwan Bloch

After seven years' clinical experience these products stand as proven specifics.

INDICATED IN SEXUAL IMPOTENCE AND INSUFFICIENCY OF THE SEXUAL HORMONES

They contain SEXUAL HORMONES, i. e., the hormones of the reproductive glands and of the glands of internal secretion.

Special Indications for Testogan:

Sexual infantilism and eunuchoidism in the male. Impotence and sexual weakness. Climacterium virile. Neurasthenia, hypochondria.

Special Indications for Thelygan:

Infantile sterility. Underdeveloped mammae, etc. Frigidity. Sexual disturbances in obesity and other metabolic disorders. Climacteric symptoms, amenorrhea, neurasthenia, hypochondria, dysmenorrhea.

Furnished in TABLETS for internal use, and in AMPOULES, for intraglutеal injection.

Prices: Tablets, 40 in a box, $2.00; ampoules, 20 in a box, $3.00.

EXTENSIVE LITERATURE ON REQUEST.

CAVENDISH CHEMICAL CORPORATION

Sole Agents.

295 Pearl Street — *Established 1905* — New York

For Cleanliness



Marvel Whirling Spray
MARVEL COMPANY
25 W. 45th Street **New York**

of menstrual irregularities are given in the booklet on Genitone, which will be sent to AMERICAN PHYSICIAN readers on application by The William S. Merrell Company, Cincinnati, O.

Constipation in Old Age

The prevalence of constipation among the aged is well known—a condition that demands considerable attention. In old-age cases, as well as those that are bed-ridden, Kellogg's Bran, thoroughly cooked and krumbled, affords a natural and very satisfactory measure of relief. Kellogg's Bran is particularly pleasing in flavor and in edibility; unlike common brans, it is thoroughly cooked and krumbled, and does not become tiresome to the patient. In fact, as a cereal with milk or cream, or on the patient's favorite cereal, it is most appetizing, or used in baking products will be found particularly appealing to the most sensitive appetite.

Physicians are finding that for both mild and chronic cases, prescribing Kellogg's Bran gives the desired result. A large package will be sent to AMERICAN PHYSICIAN readers without obligation, so that you may personally know the value of this product. Address: Kellogg Toasted Corn Flake Co., Battle Creek, Mich.

Strength for the Asthenic

Suprarenal insufficiency is one of the marked features of the asthenias. The blood pressure in these individuals is almost always low and the circulation poor. The activities of other glands of internal secretion are always impaired. That is why *pluriglandular* therapy gives better results than suprarenal substance given alone. *(Helpful Points continued one leaf over.)*

GONOSAN
"RIEDEL"

To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

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104-114 South Fourth St. **Brooklyn, N. Y.**

LISTERS DIABETIC FLOUR

DIABETES Strictly Starch-free. Produces Bread, Muffins. Pastry that makes the distressing features of Grow Less and Less

Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85
LISTER BROS. Inc., 405 Lexington Avenue, New York City

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 316



When appetites must be "born again"

Getting well is a process of re-creation. The patient's appetite, no less than any other body function, must be reborn and rebuilt. Trite, commonplace dishes—no matter how high in caloric value—won't do it. New flavors are needed—new sensations for the eye, the palate, the taste-nerves.

Few fruit-foods offer the same refreshing possibilities as Sunsweet *Dried* Apricots. No fruit offers the same rousing flavor—the tart, tangy "relish" characteristic of *dried* apricots! Moreover, nutrition tests show that the salts and organic acids in dried apricots improve the quality of the blood and react favorably on the secretions.

The enticing apricot whip pictured above is but one of a score of appealing, nutritive dishes that can be easily made from this year 'round fruit. Our Sunsweet Recipe Packet shows many more—it is yours for the asking. California Prune & Apricot Growers Inc., 480 Market St., San Jose, California.

SUNSWEET
CALIFORNIA'S NATURE-FLAVORED
Dried APRICOTS

Specialties *for* TONSILLITIS

Benzomint

INTERNAL REMEDY

Compound of Sodium Benzoate with Alkaloids of Calisaya

A TIME-TESTED, highly therapeutic formula which has proved a veritable wonder worker in many thousands of cases of Tonsillitis. Benzomint has pronounced antiseptic and antipyretic properties. It soothes instantly the intense pain from swollen, inflamed glands, and quickly counteracts both local and systemic infection.

Glycodin

(GARGLE)

AN efficacious astringent and antiseptic gargle of great value in the treatment of Tonsillitis.

Pint, $1.00; Five Pints, $4.50; Gallon, $6.00. Either preparation. Send for samples and literature

THROAT SPECIALTIES LABORATORIES

(MILBURN PHARMACAL CO., INC.)
BALDWIN, L. I. NEW YORK

McKesson & Robbins Wholesale Distributors New York City

Amenorrhoea
Dysmenorrhoea

and other disturbances of the menstrual function call for the true active principle of Parsley:

APIOLINE
(Chapoteaut)

It Secures Results

by acting directly upon the uterine nerve endings and producing ovarian hyperemia, but without disturbing gastric or renal functions.

Avoid impure or unreliable substitutes.

Prescribe original vials of 24 capsules.

Laboratory of
Dr. Ph. Chapelle, New York-Paris

Physicians' sample and literature on request to
E. Fougera & Co., Inc., American Agents
90 Beekman Street, New York
Canada: Lymans Limited, Montreal

Hormotone is a combination of thyroid (1-10 gr.) entire pituitary (1-20 gr.) ovary and testis, and promotes oxidation, increases blood pressure and enhances metabolism by producing suprarenal efficiency.

For full information, AMERICAN PHYSICIAN readers should address: G. W. Carnrick Company, 419 Canal Street, New York.

When a Uric Acid Solvent is Desired

In all cases where a uric acid solvent is desired, habitual constipation, gout, rheumatism, etc., you will find that Pluto Water gives particularly gratifying results. The clinical evidence of many practitioners has proven this.

Produces Complete Vaginal Antisepsis

"Aseptikons" (vaginal suppositories) produce complete antisepsis and are non-poisonous, non-irritating and produce no injury to membranes. They are indicated in cervicitis, leucorrhea, specific and non-specific vulvo-vaginitis in all cases where complete vaginal antisepsis is desired.

For further information, address: Parmele Pharmacal Company, 47-49 West Street, New York.

Intravenous Administration of Mercury

Loeser's Intravenous Solution of Mercury Oxycyanide is the result of years of study of the chemical, physical and clinical properties of mercury salts employed in syphilis.

Interesting descriptive literature, price list, and "Journal of Intravenous Therapy" will be sent to AMERICAN PHYSICIAN readers on request. Address: New York Intravenous Laboratory, 100 West 21st Street, New York City.



Woodlawn Maternity Home

A strictly private and ethical Home Retreat for unmarried girls and women during pregnancy and confinement, with best medical care, nursing and protection. A home found for the infant by adoption if desired. All publicity avoided. Prices reasonable. For particulars, prices and terms, address
WOODLAWN, OWEGO, Tioga Co., N. Y.



MORPHINE
NEW HOME TREATMENT

For all Drug and Alcoholic Addictions—Doctor: treat these cases at home privately yourself. No pain, very little discomfort. Sanitarium maintained for those who desire. Enclose stamp for full information.
DR. QUAYLE'S SANITARIUM
MADISON, OHIO **BOX 5**



DR. GRIBBLE'S SANITARIUM
Formerly at Lebanon, Tenn., for
DRUG, ALCOHOL and TOBACCO ADDICTIONS
Established 18 years.
A quiet, home-like institution. Only refined cases accepted. Over 5000 cases treated. For references address
DR. POWER GRIBBLE, 1519 McGavock Street, Nashville, Tenn.

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(Washable)

Unsurpassed in enteroptosis, gasteroptosis, floating kidney and post-operative conditions. Relieves dragging on the solar plexus.

Price to the physician, $4.50 up. Washable; very durable; economical.



"NEVERSSLIP"

Full supply for thirty cases at only a nickel each. Send us $1.50 and will ship at once prepaid.

HUSTON BROS. CO. **Atlas American Bldg., Chicago**

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 316

"It is More Unfortunate to be Left-Minded Than Left-Handed!"

Only left mindedness can ignore the practical value and demonstrable efficiency of ALKALOL. Since the best antiseptic for an irritated or inflamed mucous membrane is the natural secretion of its healthy cells, the best application is that which soonest and best *restores* such cells to normal.

ALKALOL does this, by virtue of its correct salinity, its proper alkalinity, its hypotonicity, and because it *feeds* depleted or exhausted cells with needed physiological salts to restore natural secretion.

In the eye, ear, nose, throat, bladder, vagina, urethra, rectum, on the skin and internally, ALKALOL is corrective, restorative, soothing and healing.

ALKALOL is alkaline, but it stands the acid test of time and trial.

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Permit me to state that we have used Rhinol at the Quality Hill Sanatorium with several of our patients that were suffering from Hayfever. The results were indeed good and pleasing. Will be glad to have you publish this statement for the benefit of the medical profession.

(Signed) J. S. MASSEY, M.D.,
Physician and Surgeon.

Quality Hill Sanatorium,
Monroe, N. C.

July 8, 1921.

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I want to inform you that during the last year I have treated a large number of patients suffering from Coryza, Chronic Rhinitis, Pharyngitis, Laryngitis and Hayfever with your Rhinol, and it gives me great pleasure to state that the results have been very satisfactory in each instance. Rhinol is one of my standbys in my practice and now that I have realized its great therapeutic value in the treatment of the above named conditions, I could not do without it. You may make any use of this letter in any way you may desire.

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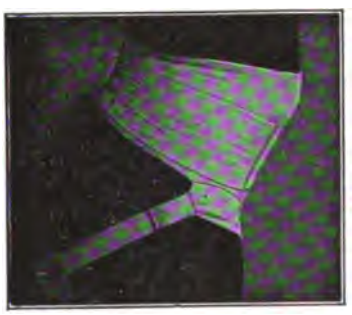
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Our Advertising Standards

[Continued over from preceding page]

ture and in such form as may parallel a prescription written by a qualified physician who is seeking in the proprietary form elegant pharmacy in place of an extempore prescription.

Products composed of minor botanic remedies in adequate dosage, provided these drugs have a real place in medical literature and are well defined in materia medica, since many thousands of physicians esteem them despite pharmacologic data urged against them.

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Better than the usual chart because each part is reproduced in natural color, flap upon flap, in exact position.

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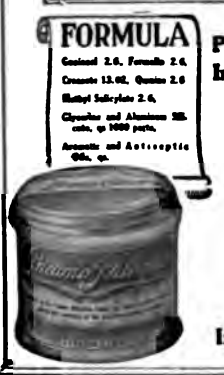
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The best remedy (Pneumo-Phthysine) misapplied, may defeat the combined skill of all who have contributed to its success. More especially in the treatment of pneumonia, the unconquered foe of medical science.

If PNEUMO-PHTHYSINE has failed you, there is a reason.

How to Apply in PNEUMONIA

Apply a thin layer, thickness of silver dollar, to cheesecloth, cut to cover front of chest, including supra-clavicular space and reaching below to and including the true ribs. Do not heat plaster above temperature of body. Excessive heat hastens the evaporation of Guaiacol, so efficient as an antipyretic. Heat plaster to desired temperature by first applying to cheesecloth and then holding it over radiator, lamp, etc.

The liquid contents of application soon disappear through the absorptive property of the skin. The recurrence of pain or high temperature demands more frequent dressings.

Pneumo-Phthysine Chemical Co.
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this is especially marked and a subscription bill enclosed, it is NOT intended for you.

NOTE—If you have just recently remitted and a bill is inclosed here, please ignore it. With a subscription list as large as ours it takes a few days for a subscription to pass through, be finally credited and the stencil transferred from one classification to another.

He Compares Us to Old Wine!

And prophesies that we will continue to improve as old wine does—that's what one Brother wrote in to us this month.

We don't know how far the comparison goes—certainly our *price* hasn't gone up like that of the fruit of the vine.

But as for improving—he is dead right. We are going to go right on improving; bringing to you a better and better journal each month, full of the kind of practical medical material you can use in your every-day work.

And we can prophesy one thing ourselves—just as surely as THE AMERICAN PHYSICIAN improves—you who read it will improve. Because in the months to come, this journal is going to be a very real aid to the earnest physician in making a greater success in his practice.

But Brother, it takes money to publish a journal, and our profit is figured very small, so that delayed payment means a real hardship. So we are hoping you will let us hear from you this time.

Just slip $3.00—for two years—(check or bills) in the safe money carrier here—you don't even have to write your name, and we take all risk of safe carriage. But let us hear from you this time, Brother. Thank you.

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A Powerful Alterative — Composed of Guaiac, Stillingia, Prickly Ash, Turkey Corn, Colchicum, Black Cohosh, Sarsaparilla, Salicylates of the Alkalies, Iodide of Potassa and other well known remedies, combined in such a manner that it is tolerated by all patients suffering from Rheumatism, Gout, Lumbago, Neuralgia, Sciatica, etc.

Prescribe it for "That Stubborn Case"

***To Physicians only*—we will upon request, send a regular eight ounce bottle ($1.25 size), for trial, upon receipt of 25 cents for express charges.**

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The following is a remarkably soothing and effective eye-wash that can be relied on to afford relief without delay from conjunctival inflammation.

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Aq. Camph oz. i
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M et Sig.—Ten drops in eyes every 2 or 3 hours
POND'S EXTRACT CO., New York and London

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Presents a new principle in the conquest of chronic constipation—that of treating the bowel contents rather than the bowels themselves. Corrects the physical condition of the intestinal mass — restores its normal bulk and softness—and the bowels resume their natural functioning. REGULIN is a true bowel corrective. SEND FOR SAMPLES TO-DAY

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Acute Infections of the Nose and Throat

Every Winter and Spring bring their quota of naso-pharyngeal infections. The great dangers of these extending to the various sinuses and ears, or of being the fore-runner of graver respiratory diseases, particularly pneumonia, make painstaking and effective treatment of even the simplest cold both urgent and necessary.

The ease with which **Dioxogen**, when used as suggested, will quickly control the great majority of colds, and not only avoid their obvious dangers, but give the patient gratifying relief from local congestion, with its often severe discomfort and distress, emphasize the desirability of employing it at the earliest evidence of an infection.

Owing its efficiency in overcoming infections of the upper air passages to the liberation of pure active oxygen— Nature's own antiseptic—it is no wonder **Dioxogen** fills the place it does in the treatment and prophylaxis of nose and throat colds.

THE DIOXOGEN TREATMENT OF NOSE AND THROAT COLDS

At the earliest possible moment the nose and throat should be swabbed thoroughly the gently with cotton pledgets saturated with Dioxogen, diluted one part to three of warm water, especial care being used to reach back of the faucial pillars. If the condition indicates a severe infection, this swabbing by the medical attendant should be done twice a day. In addition to this, the patient should spray the nose and throat every hour or two with Dioxogen in a strength of two to four teaspoonfuls to a half glass of warm normal salt solution. The rapid control of the infection means grateful relief and the effectual prevention of complications and sequelae.

The Oakland Chemical Co.

59 Fourth Ave., New York

"Two to four teaspoonfuls of Dioxogen to a half glass of warm water makes an ideal gargle or nasal spray."



LIBERAL DOSAGE—MINIMUM EXPENSE

In specializing on Bacillus Bulgaricus Cultures under the scientific guidance of Professor Metchnikoff since 1906 and by constant co-operation and collaboration with eminent medical practitioners, we have arrived at the conviction that adequate dosage is one of the most important factors in the effective application of the Bacillus Bulgaricus to therapeutic purposes. Seven c.c. tubes have brought satisfactory results in cases where long-continued use of tablets showed no improvement whatsoever, and the administration of one ounce or two ounce doses, once or twice daily, gave surprisingly rapid results where the 7 c.c. doses had proved of little benefit, even when administered three to six times daily.

Acting on this scientific conclusion, we have worked out the problem of LIBERAL DOSAGE—MINIMUM EXPENSE. We have always maintained, and still steadfastly maintain, that it is unscientific and even dangerous to dispense culture media in bulk. Our reason for this has been clearly set forth for years on page 6 of our Physician's List. We have, therefore, introduced the "small drink" dose in individual, one-dose bottles.

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"PINEAPPLE CULTURE, METCHNIKOFF." A two-ounce dose of Culture A in each bottle. Suitable for all cases of autointoxication, except Diabetes, or where fruit juices are counter-indicated. Price per case of one dozen bottles, delivered to patient's address, anywhere east of Mississippi River. $2.00.



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The Medical Council

BOSTON MEDICAL
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MEDICA
OF
BOSTON CIT

The Greedy Colon

Radical Treatment of Autoxication by Colonectomy

(*page 357*)

We Must Lay Our Cards on the Table

In The

Health Insurance Proposition

(*page 339*)

Diagnosis of Blood Diseases

By The

General Practitioner

ON HIS DIAGNOSTIC ABILITY DEPEND THE REMAINING FEW YEARS OF THE PATIENT'S LIFE

(*page 343*)

Full Contents on Page 328

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Samples and Literature on request

DIARSENOL COMPANY, Inc.
BUFFALO BOSTON ATLANTA

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 392

Sherman's Polyvalent Vaccines

VACCINE therapy is based on two well-known factors: (a) That antibodies develop, primarily, in the infected tissues during the course of an infection and when killed organisms are injected into healthy tissues antibodies are formed by the tissues into which the killed organisms are injected thus exploiting inactive healthy tissues and forcing them to become actively engaged in antibody formation to aid the infected tissues in overcoming the infection, and, (b) That killed organisms when injected into healthy tissues are more dependable and safer agents towards stimulating tissue cells for antibody formation than the live organisms responsible for infective processes.

Sherman's Polyvalent Vaccines are dependable antigens for destroying or digesting the disease germs in

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Bronchitis	**Nephritis**	**Tonsillitis**
Erysipelas	**Neuritis**	**Tuberculosis**
Gastritis	**Otitis media**	**Typhoid fever**
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Immunity to these bacterial diseases is aroused all along the line only by numerous different strains of selected vigorous type-true virulent organisms such as Sherman's Polyvalent Stock Vaccines contain.

Sherman's Vaccines are beyond experimental.

Descriptive data on request to Physicians

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FELLOWS' SYRUP OF THE HYPOPHOSPHITES,

"The Standard Tonic for over fifty years,"

contains the basic elements to ensure normal metabolism, together with the dynamic agents, quinine and strychnine, which make it a true stabilizer of shaken nerves

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MEDICAL COUNCIL



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mean more to the medical profession than a mere seasonal remedy for Hay Fever, to be obtained at a certain price.

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WE CLAIM IT HAS UNUSUAL MERIT AND OFFER THE PREPARATION AND FIFTEEN YEARS OF PHENOMENAL SUCCESS AS EVIDENCE.
Combining with well known ANTISEPTICS in pleasing form the Therapeutic properties of
ZINC CHLORIDE
LAVORIS CHEMICAL CO. MINNEAPOLIS, MINN.

AUTHORITATIVE EVIDENCE
(Photographically Reproduced)

Herewith is a photograph of Page 95, Vol. 11, "Diseases of Women," as edited by H. Marion-Sims, M D, and in Dr. Sims' own words, is recorded the high esteem in which he held *Hayden's Viburnum Compound* and the "great service" rendered in treating

DYSMENORRHEA

HAYDEN'S VIBURNUM COMPOUND

is as effectual therapeutically to-day as in the day of Sims, and will give you the same "great service" in treating your dysmenorrhea cases, as was rendered to Dr Sims.

Prescribe, as recommended by Sims, in teaspoonful doses, "administered in hot water" every hour for three or four hours. See that the genuine H V C and not a substitute is dispensed.

Liberal samples of the genuine H V C willingly sent on request.

NEW YORK PHARMACEUTICAL CO.
Bedford Springs, Bedford, Mass.

Hayden's Uric Solvent has proven most effective in the treatment of rheumatic and painful joint conditions. Its value has been proven by years of clinical experience. Samples and literature on request.

DYSMENORRHŒA. 95

It has been long known that rest is most efficacious in relieving dysmenorrhœa. Some patients habitually go to bed during the menstrual process, finding so much relief from the position. There is nothing therefore new in the recommendation to rest at this time, but experience has shown that the positional treatment above described carries the effect still further. The treatment is particularly valuable in the case of young single women who are suffering from dysmenorrhœa not of such severe character as to render internal treatment imperatively necessary. And indeed I have in several cases employed positional treatment with great success where no examination at all had been made, but where the symptoms and general history conclusively showed that the patients were suffering from commencing uterine flexion.

Positional treatment is also very valuable as an adjunct in cases where internal mechanical apparatus are in use.

Palliative Measures.—Rest, the horizontal position, postural treatment, as above described, are all of first-rate importance. The warm hip-bath, temperature 100° or even higher, is to be recommended. Copious vaginal injections of hot water are sometimes found very serviceable. Ether, compound spirit of sulphuric ether, camphor, and henbane are ordinary and very useful remedies. Gin and water is a common domestic remedy. Poultices with laudanum sprinkled over them, hypodermic injections of morphia, turpentine stupes, are other remedies occasionally employed. Suppositories containing opium or morphia are very effective, but the use of opium is not advisable unless under strict medical orders. Chloral and bromide of potassium are good remedies. Guaiacum (Dewees), black hellebore (Meigs), have been strongly recommended. Colchicum, cannabis indica, and in fact every sedative and anti-spasmodic in the pharmacopœia, have been employed for the relief of the pain with more or less success.

[For severe dysmenorrhœa I have frequently found Hayden's viburnum compound of great service, given in teaspoonful doses every hour for three or four hours.]

During the menstrual period great care is required that the bowels be kept regular, that the digestive organs be in an easily working condition, and that food be adequate but not in too great quantity. It should be known that it is dangerous to use cold baths during menstruation.

STYPTYSATE

THE REMEDY FOR HEMORRHAGES

Not Subject to Narcotic Law

The least disappointing remedy in uterine hemorrages. Very often acts where Ergot and Hydrastis fail. Dose gtts.x-xv. Prescribed in 10 c.c. bottles. Sold on prescription only.

A Few Short Clinical Reports Will Prove Interesting

W. H. Age 23. Menstruated regularly up to a year ago. Twice then every 10 days—profuse hemorrhage. After Styptysate, duration and quantity of flow considerably lessened.

T. V. Age 25. Menses every 3 weeks, very profuse during the last months—Styptysate reduced the amount of flow to normal quantity.

L. A. Age 28. Menstruated regularly, duration 5 days. However, for the last several months menses were irregular, and the flow, lasting 8 days, was very profuse. Styptysate shortened the periods and reduced the flow.

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The American Physician

Vol. 27 May, 1922 No. 5

We Must Lay Our Cards on the Table In the Health Insurance Proposition

NEW YORK and Chicago advocates of health insurance have been talking very frankly with us, and they show considerable disappointment over the status of affairs. They are willing to concede that the so-called model law they formerly advocated was defective and carried a political menace—one that angered the physicians, who justly feared that the politicians would control and make the status of the educated physician intolerable. The model law is a dead issue.

It is also conceded that conditions in England, the Continent and in the United States are not at all parallel and that any plans looking to the solution of the problem of sickness incidence in this country must be worked out on an American basis, not that of England or Germany.

Yet, these people contend, we are *not* meeting the sickness problem in any adequate way, and they now look to the medical profession to suggest some concrete plan acceptable to all concerned. Efforts have been made to secure expression of view from physicians, but it is stated to us that physicians who are approached for an opinion "go right up in the air, become angry, and some swear roundly that they will have nothing to do with the proposition in any form." Also, it appears, there is no group of physicians authorized to meet the advocates of health insurance in conference.

It Is Our Move

First of all let us survey conditions as they are. Times are hard, taxes are high, business and professional overhead is burdensome. Community drives for hospitals and charities are yielding disappointing sums. Wealthy people feel the loss in income, and this, added to high income taxes, make it improbable that for some years to come the wealthy will heavily underwrite our charities; they have all they can do to maintain existing institutions and movements and will not undertake new burdens except those imperatively necessary. Added to this is the outstanding fact that state governments are compelled to pare down instead of undertake new outlays. The rank and file of people are in no position to contribute largely to new enterprises; they are forced to thrift, and while showing every disposition to do what they can they will not look with favor on expensive experiments. Therefore, it must be recognized at the outset that the present is no time to suggest elaborate plans looking to the expenditure of huge sums of money.

Socialistic propaganda is on the wane except that it is generally recognized that economic conditions need adjustment, and that such readjustment should be of a character to provide better housing, more sanitary environment, a plentiful supply of nourishing food and all conditions favoring sane living and increased health. While not the sole province of sanitarians to secure these things, they have a part therein, but business and industry have larger parts. This is coming to be recognized in many ways and the opinion is forming that the sickness problem may be better met by putting people in the way of living well and helping themselves than by going on in the old economic ruts and attempting to meet the evils thereof by some sort of patent-medicine socialized medicine supplied by the state. If we can show business and industrial leaders that it pays in dollars and cents to rearrange conditions and environments—and they are being shown—a very substantial part of the sickness problem will be met without increasing taxes a cent, disrupting medical practice, or going to the expense of administering a heavy work along political or social lines.

Sanitation

The medical profession is a practical unit in the view that public health work should be absolutely divorced from politics in every shape or form, workers being employed on none but an efficiency basis from the United States Public Health Service down to the local board of health, and that fancy

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stunts be eliminated. Were such a condition to prevail in public health work, and it must prevail ultimately, one dollar would do the work that it now requires two or three dollars to do. Here is a very positive and practical way to meet several phases of the sickness problem.

Medical Practice

Both the public and the medical profession have come to the place where it must be recognized that private medical practice is a public concern, that it must be regulated by law and by its own professional associations, and that it is just as important a matter to the people to be protected from quackery and incompetence in medicine as it is in other important matters, such as fire hazards, dangerous plumbing, diseased meat supplies, impure drinking water, reckless automobile driving or dangerous use of explosives.

There is no getting away from the fact that a tremendous incidence of disease is due to quackery, cult foolishness, worthless patent medicines, and ignorant and incompetent medical and surgical attention. Wipe out these things and another large section of the sickness problem will have been met.

Public Ignorance

Suppose we *do* have a politically managed form of health insurance, or even a form of socialized medicine free from politics, what assurance have we that it would be intelligently used by the people? We are not at all reassured by results in England and Europe. How are we to keep the quacks and incompetents out of it, and how shall we proceed to line up the ignorant and mistaken elements in society so that they would select only the best of service and refuse the bad? We know how our present dispensaries are abused, how people go from our offices to the quack around the corner, how despite our best efforts our patients yield to every nonsensical superstition and fail to follow our directions, how they dose themselves recklessly with everything advertised as a remedy, how they break quarantine or refuse to be vaccinated, and how they do everything they ought not to do and do mighty few things we tell them to do. Wherein would any form of health insurance mend this state of affairs? No, gentlemen, it would not work. The state would be supplying staple goods in plain packages at a low price and the people would not appreciate it, spending just as much money, or more, on all kinds of medical foolishness and quackery as they do now, and the result would be that the state would be playing into the hands of the very elements responsible for the present high incidence of sickness and spending a vast sum of money to do it. Rather, it seems to us, *education* of the people should be stressed, and they should be taught to pay their own way medically and have sufficient discrimination to avoid being cheated.

Our Cards Are on the Table

We are sorry to disappoint the gentlemen who insist on the medical profession elaborating a plan of health insurance in place of that they formerly tried to force on us. We don't believe that meeting the sickness problem is an insurance proposition, or a lodge affair, or one for the politicians, or lay organizations. We can see no real need for a special organization, or a government bureau, or special taxes, or supervising officialdom on salaries. Rather, we take it, were the things done that we have indicated in this article ought to be done, the sickness problem will be met vastly more effectively than is possible by any scheme of health insurance devised by laymen or even by physicians.—T. S. B.

St. Louis and the A. M. A. Meeting

The arrangements of the St. Louis profession for the meeting places for the session of the A. M. A., which is to be held in their city May 22-26 next, are singularly fortunate and convenient; never has the Association been so well favored in this respect. The district in which the meeting is to take place is at the west edge of the business section of the city, easily accessible from all directions by street car or otherwise and not more than fifteen minutes' street car ride from the most distant hotel. The grouping of the meeting places is so compact that should one walk from the Registration Building (Moolah Temple) to the farthest hall it can be done in ten minutes or less; from section to section is a matter of from one to five minutes. The convenience of the location and arrangements of the different halls is more outstanding than in any other city in which the Association has met, and a decided improvement over the accommodations which were had at the meeting in St. Louis, 1910. The registration office, postoffice and commercial exhibit is to be in the Moolah Temple on Lindell Boulevard, two blocks west of Grand Avenue.

The St. Louis profession is preparing for an unusual attendance; hotel reservations are coming in rapidly, but it is purposed that even the late comer shall be comfortably housed. The wise traveler, however, makes his reservation as early as he finds it possible. Dr. M. B. Clopton, 3525 Pine Street, St. Louis, is chairman of the Committee on Sections and Section Work.

American Proctologic Society

Twenty-third annual meeting, St. Louis, Mo., May 22 and 23, 1922. Meeting place and headquarters, Hotel Claridge.

Their preliminary program is very interesting and they cordially invite the profession to attend the public sessions.

Role of Syphilis and Alcohol *in the* *Paralyses*

OSLER, some time ago, said: "Of the killing diseases, syphilis comes third or fourth." Analyzing the statistics of the Registrar-General for 1915, out of 58,000 deaths from diseases of the nervous system, 19,498 were due to syphilis, a large proportion being various paralyses. And, inclusive of syphilis-engendered cardiac and vascular diseases, stillbirths, deaths of infants under one month and other syphilitic conditions, he estimated the actual deaths from syphilis as over 60,000, thus placing it at the top, an easy first, among the infections. American figures, which have been grouped by Vedder, in his book, "Syphilis and Public Health," are equally impressive, and they show that "syphilis is the greatest cause of death of men in the large cities," as he asserts. Life insurance figures tend to prove the same thing.

Discounting alarmist figures and propagandist statements, deaths from alcohol and alcohol-engendered pathology are admittedly very numerous, many of the insanities and paralyses being due to alcohol.

Text-book Statements

Works on neurology divide and subdivide the paralyses, giving the causes on the basis of gross pathology and neurone changes, but rarely going back of these to the primary causes that induce the inflammatory and pressure lesions productive of paralyses. Paralysis agitans has a pathology not definitely demonstrated; bulbar paralyses are attributed to inflammations, degenerations, vascular lesions, and the pressure of tumors, some being syphilitic gummatæ; paralyses of the limbs have added to this pathology lead poisoning, strain, dislocations and fractures, dampness and cold, rheumatic deposits, nerve injury, cord anesthesia, and pressure, as from crutches; ischemic paralyses are attributed to pressure from bandages and splints and suppurative conditions; diver's paralysis (caisson disease) is attributed to changes in air pressure; hysterical paralyses are ascribed to lesions in the neurones or the cord; Klumpke's paralysis is stated to be due to thickening of the meninges. Then, too, infantile paralysis, Landry's paralysis, diphtheritic paralysis, and some others, are due to sepsis, infections, bacterial poisons and specific diseases such as typhoid, influenza, etc.

General paralysis of the insane, tabes, etc., are directly attributed, in a large proportion of cases, to syphilis, and sometimes to alcohol.

It is, of course, to be remembered that trauma, pressure, etc., are large factors in the induction of paralysis, and that toxins of various types induce many cases. Yet an analysis of the pathology in many of the other types, and, as well, the frequency of a positive Wassermann reaction, make it apparent that specific causes, such as syphilis and alcohol, lie back of the disease in a large number of the paralyses

The following was clipped from the foreign news section of the *Journal of the American Medical Association* for January 28, 1922:

The Spread of Insanity in Hungary

"A startling statement was recently made by Dr. Koloman, a senior physician to the state asylum at Lipotmezo. Dr. Koloman, who has made a careful study of the life histories of the 12,000 patients admitted to the asylum during the last forty years, has come to the conclusion that 53 per cent. of the cases of insanity among professional men were avoidable. Every one of these patients, he tells us, died of paralysis, 29 per cent. being physicians under 36 years of age. As regards physicians over 36, the percentage of deaths from paralysis amounted to 77, while among lawyers who had passed the same age it rose to 89. Out of fifty-three members of the latter profession, ranging from 40 to 60 years of age, fifty-one succumbed to paralysis, and eleven actors admitted to the asylum during the period in question all suffered from the same disease. As regards the prevalence of paralysis in other professions, the army was represented by a fairly large proportion; 94 per cent. of military officers over 26 years of age, and the church by 82 per cent. of Protestant and 42 per cent. of Catholic clergymen. The lowest proportion seems to be found among Jewish school teachers, there being only 6 per cent. under and 40 per cent. over 26 years of age in the total number of cases. On the other hand, the proportion of paralysis among the total number of mental diseases in Jewish merchants over 36 rises to 93 per cent., while in agricultural laborers it is only 25 per cent., and in railway and navigation men 71 per cent., therefore affording conclusive evidence that it is moral conduct, not circumcision, that protects the Jew from syphilis. The connection between paralysis and immorality is clearly proved by the data afforded by the histories of female paralytics, the proportion of paralysis among women between the ages of 16 and 30 being only 2 per cent., while in prostitutes of the same age it rises to 30 per cent., and among women between the ages of 31 and 36, 8 per cent., as compared with the 60 per cent. among their less fortunate sisters. It is surely a significant

fact, moreover, that no one has yet seen a paralytic nun. These figures, in Dr. Koloman's opinion, prove that paralysis undoubtedly depends largely on the previous presence of syphilis. There seems every reason to believe, therefore, that only a man suffering from the latter is likely to be smitten by the former, and that he who is free from the one is likely to escape the other. Alcoholism ranks next to syphilis as an etiologic factor of paralysis, and unfortunately, this cause is almost as frequent among the educated as among the uneducated classes. This is proved by the fact that only 9 per cent. of nonparalytics among the physicians owe their mental disease to alcohol, 41 per cent. of the judges, 21 per cent. of the military officers and post officials, and 32 per cent. of the railway employees have been reduced to their present condition by a reckless indulgence in intoxicants. On the other hand, not one of the thirty-three Jewish school teachers suffered from alcoholic mental disease, a fact which also proves that epilepsy is relatively uncommon among Jews. These figures, compiled from observations during forty years, convey an important moral. It is Dr. Koloman's deliberate opinion that all these unfortunate persons could, humanly speaking, have been saved from their disease if in early youth they had learned to resist temptations to drunkenness and immorality. In this respect Hungary compares very badly with such a country as Sweden, for example. While only 1 per cent. of the inmates of the Swedish state asylums are paralytics, the Hungarian establishments contain as many as 18 per cent. suffering from this disease, and, moreover, many of the patients are physicians, lawyers and other professional men who, instead of being an object of expense to the state, ought to be capable of working for twenty or thirty years for their own and the public welfare."

These are startling statements and they are entitled to careful consideration. It impresses us that our whole conception of neurology is too anatomical and histological, too much based on the neurone theory, whereas progress lies in the direction of recognition of more obvious and primarily etiologic factors. Now that public attention is being directed to the evils of alcohol and venereal factors in the production of disease, we may, if we profit from recent statistics and set aside preconceptions, do a world of good in limiting to the minimum the incidence of the paralyses.—

If you have quickly and completely emptied a chronically distended bladder, and in a few days signs of urinary failure set in, do not be surprised at the phenomenon and wonder what caused it. Empty partially.

COMING IN NEXT ISSUE

Gastric and Intestinal Motility, by J. C. Boodel, M.D.
Motility, secretion, digestion, pain, ulceration, spasm and obstruction in the alimentary canal are conditions encountered by every physician in his daily vocation. We thoroughly approve of the paper of Dr. Boodel as the brief but clear descriptions on the mentioned points will be of undoubted value to every reader.

Preventive Gynecology, by H. S. Lott, M.D.
There is music in brooks, sermons in rocks and poetry in gynecology. Still, in spite of the artistic form of this paper, it is loaded with instruction, utility and common sense.

The Proper Interpretation of Symptoms, by Alfred Brown, M.D.
Symptoms are extrinsic expressions of intrinsic conditions and are precious when properly understood. However, when they run wild like a mob in alarm and disorder, their interpretation becomes difficult and their significance problematical. It is then that the physician steps in and distinguishes between the informative and valuable and the rambling and confusing. These points are skillfully discussed and vividly illustrated in Dr. Brown's helpful paper.

Familial Epistaxis, by H. I. Goldstein, M.D.
The disorder herein described is rare, obscure and interesting and is presented by the author with characteristic thoroughness. It should make unusually profitable reading.

The Following Series will be continued:

A Case of Tuberculosis of the Foot, Twenty-seventh Clinic, by A. Mackenzie Forbes, M.D.
In surgery the importance of judgment cannot be overestimated. Some cases of tuberculosis of the foot may be treated by expectant measures, in others it is wise to amputate. The reasons for the decision are carefully worked out and will prove interesting and helpful.

Medical Diathermy, by Elnora Cuddeback Folkmar, M.D.
This conservative article is a reliable guide to the practitioner and gives exact technic that is safe and effective.

Observation—Third Paper on "Footlights on the Feet," by Charles Cross, M.D.
A brief but interesting paper on faulty shoes and the trouble they cause.

The Following Clinical Editorials:

Take Care of the Spine Especially in These Days of Traumatic So-called "Adjustments."

Chlorophyll and the Vitamines.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Diagnosis of Blood Diseases

by the

General Practitioner

ON HIS DIAGNOSTIC ABILITY DEPEND THE REMAINING FEW YEARS OF THE PATIENT'S LIFE

By D. A. SMITH, B.S., M.D.,
1000 French Street, Wilmington, Del.

Blood Slide a Valuable Diagnostic Index

Undoubtedly correct in stating that "the general practitioner does not diagnose the blood diseases as often as he should," it was the author's happy thought to write this timely and well-planned paper on all important blood dyscrasias and allied disorders, covering them admirably, and leaving out, at the same time, burdensome details and dry technicalities, and presenting the subject in an interesting and readable form.—EDITORS.

THE GENERAL PRACTITIONER does not diagnose the blood diseases as often as he should. The average doctor is a busy man, and the necessary examination of the blood does take time. It is not suggested that such an examination be made as a routine measure, but only when the clinical picture seems to call for it. An exhaustive study of the blood, while desirable, is not essential, yet the examination of a properly prepared blood slide alone, will sometimes add to the prestige of the doctor and to the life of the patient.

The average doctor is more of a technician than he will admit, for he has had several years of laboratory work in college, university and hospital. The preparation, then, of a blood slide presents few difficulties. Unfortunately, not many physicians outside of those directly connected with hospitals use the blood for the valuable diagnostic index it undoubtedly is.

Blood Diseases

The blood is a tissue, as much so as bone and muscle, and hence we should expect it to have diseases peculiar to itself. However, modern research teaches that there are no idiopathic blood diseases, but that the blood, to an extraordinary degree, reflects conditions elsewhere. For this reason it is seldom possible, and never advisable, to make a diagnosis of the so-called blood diseases from the blood alone. The clinical symptoms are always the more important, and the blood examination is merely confirmatory.

While it is scientifically true that the blood is never primarily diseased, there are several disorders in which the blood symptoms are very prominent, and the true etiology very vague. Custom has given the name "blood diseases" to these affections, and the term will be used throughout this article as a matter of convenience.

Hematologic Considerations in Health and Disease

The blood keeps a remarkably uniform morphological composition in health, and in many diseases. In normal blood there are from 4,500,000 to 5,000,000 red cells (erythrocytes), 6000 to 10,000 white cells (leucocytes) and 200,000 to 700,000 platelets to the cubic centimeter. In certain diseases, however, the number of the circulating erythrocytes is much decreased (the anemias), in other diseases the number of the leucocytes is much increased (the leukemias). All the leukemias develop a secondary or symptomatic anemia as the case progresses. The anemias, on the contrary, seldom show an increase in the white cells (leucocytoses), unless it is caused by the underlying disease.

In adult life, it is probable that all cells, both erythrocytes and leucocytes, originate from large mononuclear non-granular mother cells in the bone marrow. In the anemias there is great destruction of the erythrocytes (oligocythemia), and the bone marrow seems unable to supply the demand for mature red cells. Hence, some of the immature nucleated forms enter the circulation (microblasts, normoblasts and megaloblasts).

The polymorphonuclear leucocytes are immediately

derived from mononuclear basophilic, eosinophilic and neutrophilic cells (containing bluish, reddish or neutral granules). These cells, in their turn, have for their common ancestor the mononuclear non-granular mother cell. Most of the large and small lymphocytes are formed in the bone marrow from the same mononuclear cell. Some of these cells, however, are undoubtedly formed in the thymus, lymph nodes and general lymphoid tissue. The platelets are formed either from the detached pseudopods of the giant cells (megakaryocytes), or from the extruded nuclei of the erythroblasts.

So much for the morphology of the blood. We use only the variation in the number and character of the circulating cells to make a diagnosis of blood disease. The chemical tests (urea nitrogen, cholesterin, creatinine, uric acid, etc.) and the serum reactions (Wassermann, Widal, hemolytic, agglutination, etc.) are, as far as we are here concerned, not necessary.

Clinical Symptoms

Sometimes the clinical symptoms of the blood diseases bear such a striking resemblance to those of other asthenic conditions, such as sepsis, tuberculosis and nephritis, that particular care may be needed for the differential diagnosis. The doctor will see hundreds of the more common diseases, to one where the blood condition seems the paramount factor. Hence, if he is not on the alert, this one case may slip by him with results disastrous to the patient. To complicate matters further, tuberculosis, nephritis or any of the other more frequently met diseases may coexist with the blood dyscrasias.

We will now consider the symptoms most often found in the blood diseases. Of course, they are not all present in any given case, or perhaps it is more accurate to say they are not all emphasized to the same degree. In one case the gastro-intestinal symptoms will be predominant (nausea, vomiting, stomatitis, constipation or diarrhœa). In another, the nervous phenomena overshadow all else (headache, vertigo, somnolence, neuralgia, various parasthesias, psychic disturbances, etc.). In a third, the respiratory symptoms will hold the center of the stage (rapidity of respiration, dyspnea, air hunger, chest oppression, etc.). All cases invariably complain of marked weakness, mental depression, palpitation of the heart, anorexia and loss of weight. Every case also develops pallor of the skin, edema of the hands, feet and abdomen, and slight evening fever. We shall refer to this paragraph several times in our discussion of the individual diseases.

Preparing and Examining the Blood Slide

A blood slide should be taken of any patient who shows jaundice or facial pallor, and who complains of the symptoms just enumerated. Use a sharp lancet, and puncture either the lobe of the ear or the finger tip. Make this puncture deep, so that it will not have to be repeated. Any doctor who has had experience with a nervous patient will understand the advantage of this. Do not massage the part selected for puncture, as this tends to change the condition of the blood. Wipe off the first drop and allow the succeeding drop to adhere to the face of a clean slide. With the edge of a second slide make as thin and even a spread as possible. After the slide has been thoroughly dried in air, we are ready for staining. Add eight drops of Wright's stain for two minutes; then add eight drops of distilled water and allow the mixture to stand for two minutes more. Wash the slide in running water and dry in air.

For a complete blood examination, we should make a red, white and differential count of the blood cells, and we should also determine the percentage of hemoglobin. Then by dividing the percentage of hemoglobin by the percentage of red cells, we would get the color-index, which varies characteristically in the different anemias. All this, while not especially difficult, takes more time than the average physician can personally afford. By confining himself to the blood picture, he can at least determine whether he is dealing with a true blood dyscrasia. If he decides this to be the case, he can send a specimen to a reliable commercial laboratory for a complete examination.

The Anemias

In the anemias we have a marked diminution in the number of the circulating erythrocytes. There is seldom a leukocytosis, unless caused by the underlying disease, and there is sometimes a leukopenia (diminution of the white cells). Under the anemias we will discuss pernicious anemia, chlorosis, symptomatic or secondary anemia, splenic anemia, Von Jaksch's anemia and malaria.

Pernicious Anemia

Pernicious anemia used to be called a primary or idiopathic anemia, but we now know it to be symptomatic or secondary, even though the etiological factor is in doubt. It generally appears in adult life, between the ages of twenty and forty, and is twice as common in men as in women. The onset is very insidious, and when the patient comes to the doctor the disease is usually well advanced. The chief complaint is extreme weakness, with palpitation and dyspnea on the slightest exertion. The patient may not have lost much weight, but he looks sick. Pallor of the face and body is extreme, and as the case progresses the skin takes on a lemon tinge. The patient may complain of any of the symptoms common to the blood diseases. On physical examination, cardiac murmurs (functional) may be heard, and a venous *hum* can sometimes be demonstrated in the veins of the neck *(bruit de diable)*. The blood pressure is low (less than 100 systolic).

Blood Picture in Pernicious Anemia

In preparing the slide we will note the blood to be abnormally pale and fluid. Microscopically the erythrocytes are not uniform in size (anisocytosis), and show bizarre shapes (poikilocytosis). The cells do not take the stain evenly, so that some are deep red, some very pale and some more or less bluish in color (polychromatophilia). Many of the erythrocytes are nucleated (microblasts, normoblasts and megaloblasts), and it is the presence of these nucleated cells, especiallly the megaloblasts, that is characteristic of the disease. More leukocytes may seem present than in a field of normal blood, but this is only because the erythrocytes are so markedly reduced (2,000,000 or less). The presence of megaloblasts and other nucleated cells, the absence or reduction of the blood platelets, the poikilocytosis, anesocytosis and polychromatophilia, are the main diagnostic points of the blood picture.

Fig. 1 shows a microphotograph of a typical case of pernicious anemia. It may possess added interest from the fact that it was made by the author during some blood studies by means of an ordinary microscope, a photographer's camera and a great deal of patience.

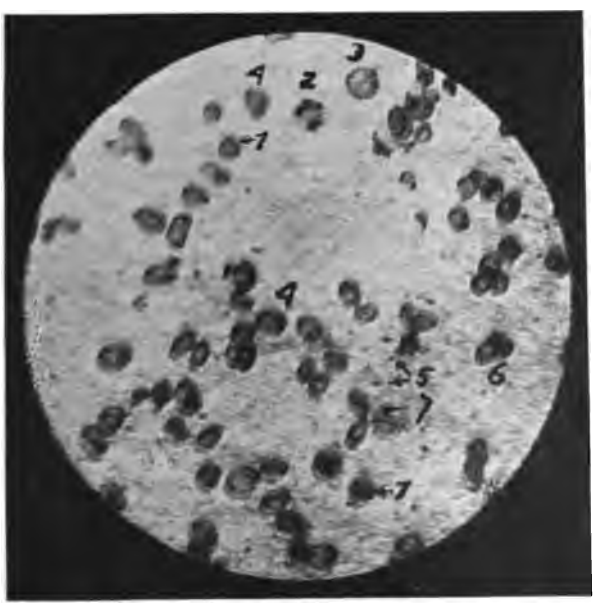


Fig. 1 Pernicious Anemia.
1. Normoblast.
2. Polymorphonuclear cell.
3. Large lymphocyte.
4. Cell showing polychromatophilia.
5. Cell fragments.
6. Megaloblast.
7. Poikilocytosis.

Chlorosis (Green Sickness of Girls)

This disease is confined to girls at about the time of puberty. It occurs more often in blonds than in brunettes, and in subjects who have been undernourished and under-exercised. These facts considerably narrow the diagnostic field.

Given, then, a young female, who complains of the symptoms common to the blood diseases, we should look for the special symptoms which point to chlorosis. The patient may seem extremely plump and well nourished, which fact is in marked contrast to her great pallor. On the slightest exertion, she may get very deceptive peach-bloom cheeks (chlorosis rubra). She will evince a most extraordinary taste for certain articles of food, such as pickles, highly spiced dishes and even clay or chalk. Note that edema of the feet and ankles is often present, and we should not take this as evidence of a simple heart or kidney condition until the blood has been examined. The heart, particularly, may be suspected, as there is usually a systolic murmur present and a loud venous hum in the veins of the neck (bruit de diable).

Blood Picture in Chlorosis

When the blood slide is examined, nothing characteristic will be noted. The same blood picture may occur in any of the symptomatic anemias. The erythrocytes are very pale (low hemoglobin content), but of normal size (normocytes). There is little poikilocytosis and a few, if any, nucleated cells. Polychromatophilia is rare, and when found with poikilocytosis indicates a severe type of the disease.

Symptomatic Anemia (Secondary Anemia, Acute and Chronic)

Acute symptomatic anemia is practically always due to a severe hemorrhage. Sometimes it may be caused by exceptionally severe bacterial infections, such as typhoid fever, or puerperal sisdes In all such cases the etiological factor is evident and the blood condition is secondary to it.

In chronic symptomatic anemia, the etiological factor is also evident. This type of anemia accompanies all infectious diseases, as septicemia, syphilis, diphtheria and tuberculosis. Parasitic infections, such as malaria; inorganic poisons, such as lead, mercury or arsenic; malignant disease, such as carcinoma; repeated hemorrhages from any part of the body (gastric ulcer, menorrhagia, etc.), all cause a concomitant anemia. The blood picture is not characteristic and tells but little, hence, other tests must be employed to clinch the diagnosis. The Widal for typhoid, the Wassermann for syphilis, the Von Pirquet for tuberculosis, the leukocyte count for septicemia, etc.

Splenic Anemia (Splenomegaly)

Splenic anemia occurs most often in males during later adult life. It is characterized by progressive enlargement of the spleen without known cause. The

spleen may enlarge enormously and sometimes extends into the pelvis (primary splenomegaly). Later in the disease symptoms of portal cirrhosis of the liver appear (ascites, jaundice, etc.), and the symptom complex is then known as Banti's Disease. Splenic anemia is not a blood disease in the sense of the term used in this article. The blood picture is not characteristic, and merely shows a simple symptomatic anemia, leaning towards the chlorotic type. The disease is mentioned here because the name, splenic anemia, would seem to include it in the blood dyscrasias.

Von Jaksch's Anemia (Infantile Anemia)

Von Jaksch's anemia is probably the terminal stage of a symptomatic anemia brought on by improper food and poor hygienic conditions. Infectious diseases, such as syphilis, or nutritional diseases, such as rickets, also play an important etiological role. As the name implies, it is a disease of infants and children. The spleen is sometimes enormously enlarged, and hence the disease bears some resemblance to the splenic anemia of adults. It is only the more serious forms that merit the name, Von Jaksch's anemia. A slight enlargement of the spleen, with a mild symptomatic anemia, is common in many apparently well children. The blood slide shows little more than the changes of secondary anemia. We may find a few myelocytes and megaloblasts, which would indicate a far-advanced anemia. Fig. 2 shows a typical blood picture of a secondary anemia. The blood was taken from a case of Von Jaksch's disease.

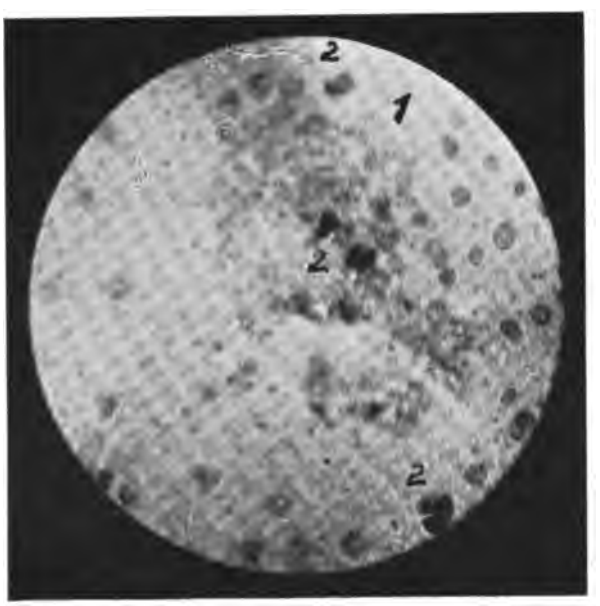


Fig. 2 Von Jaksch's Anemia.
1. Erythrocyte showing pale cells of secondary anemia.
2. Polymorphonuclear cell.

Malaria

Malaria is not a true blood disease, although an examination of the blood is of prime importance for a proper diagnosis of the condition. The presence of the malarial organisms will then be discovered and the type of the disease determined (quotidian, tertian, quartan or estivo autumnal). In the latter stages of acute malaria, and in all the chronic forms, a severe secondary anemia develops. The symptoms, which would suggest the making of a blood slide, are too well known to need enumeration here.

The Leukemias (Leucocythemia)—Myeloid Leukemia

There are two types of leukemias, myeloid and lymphatic. They are both rare diseases, characterized by great activity of the leukoblastic tissues and a vast increase in the circulating leukocytes. A secondary anemia always develops more or less late in these diseases. Two-thirds of the cases develop in males during late middle-life.

In myeloid leukemia (myelogenous leucocythemia), the patient may complain of any or some of the symptoms common to the blood diseases, but he will always complain of pain and discomfort in the region of the spleen. On examination, the spleen will be found much increased in size and very tender. The liver is also enlarged and extends several fingerbreadths below the costal margin. These physical signs are marked, because the patient seldom consults a doctor early in the disease. He knows he does not feel well, but the symptoms are vague and indefinite. What usually causes him to seek advice is pain in the upper left quadrant of the abdomen, shortness of breath, weakness or hemorrhage. Hemorrhage is characteristic of the disease (80 per cent. of the cases), and may occur from the nose, gums, stomach or uterus. Hemorrhage may also occur into the skin and suggest purpura hemorrhagia. They are sometimes very severe and may cause death. Fever 100-102° F.) is always present. The dyspnoea is much increased with the advent of anemia, and late in the disease the other evidences of this condition will become marked (edema, pallor, palpitation of the heart). The superficial glands are rarely much enlarged, while in lymphatic leukemia and Hodgkin's disease they may be huge. This fact is important in the differential diagnosis.

Blood Picture in Myeloid Leukemia

Microscopically, an enormous increase in the leukocytes will be noted. The field is literally full of them. Probably more polymorphonuclears than myelocytes will be noted, but they are about evenly divided. This is the main diagnostic point in the blood picture —the great number of myelocytes in the field. Few lymphocytes, either large or small, will appear. The

red cells are relatively few in number, and show the ordinary changes of secondary anemia. Later in the disease, normoblasts and megaloblasts may appear. Fig. 3 shows a typical blood picture in myelogenous leukemia.



Fig. 3 Myelogenous Leukemia.
1, 2 and 3. Myelocytes with basophilic and eosinophilic granules.
4. Erythrocytes.

Chronic Lymphatic Leukemia (Lymphatic Leucocythemia)

Chronic lymphatic leukemia is less common than the myeloid type. It occurs mostly in males in late adult life. As in all blood diseases, the onset is insidious, with the attending malaise, weakness, dyspnea, palpitation, anorexia, edema and loss of weight. One of the main diagnostic points is the enlargement of the lymphatic glands. All the glands of the body enlarge—the internal (mediastinal and abdominal) as well as the external (cervical, axillary and inguinal). The glands are discrete and movable, and are rarely tender. The patient usually consults the physician because of extreme weakness and the presence of "lumps" in various parts of the body. Sometimes he comes because of hemorrhage, the tendency towards which is more marked than in the myeloid type. Priapism may be severe and cause extreme discomfort. An irregular, moderate fever is always present (under 102° F.). Anemia appears earlier than in the myeloid variety, with its attendant symptoms (edema, palpitation, air hunger, tinnitus aurium, vertigo, etc.).

Blood Picture in Chronic Lymphatic Leukemia

The blood picture is characteristic. There is a tremendous increase in the number of leukocytes in the microscopic field, and practically all are lymphocytes. Comparatively few polymorphonuclear cells are present, and myelocytes and eosinophiles are often absent. The erythrocytes are pale (low percentage of hemoglobin) and take the stain poorly (polychromatophilia). Owing to the severe concomitant anemia, normoblasts and megaloblasts are often present.

Acute Lymphatic Leukemia

This disease is less common than the chronic variety, and occurs mostly in women and children—an important diagnostic point. The symptoms so closely resemble septicemia, typhoid fever, sepsis or purpura hemorrhagia, that a correct diagnosis is seldom made. The onset may be insidious or abrupt, with few prodromal symptoms. High fever (103-104° F.) is always present, with profound bodily weakness. Dyspnea, edema and pallor occur as death approaches, probably because the secondary anemia is just then entering its more severe stage. The liver, spleen and all the lymphatic glands tend to enlarge, but the course of the disease is often so extremely rapid that death ensues before marked enlargement occurs.

Blood Picture in Acute Lymphatic Leukemia

The diagnosis is confirmed principally by the blood examination. The microscopic field is literally full of lymphocytes (99 per cent. or more), mostly of the large variety. Few polymorphonuclears, myelocytes or eosinophiles are present. The symptomatic anemia is usually severe (oligocythemia, nucleated erythrocytes, poikilocytosis, etc). The case from which the microphotograph in Fig. 4 was taken died one day after admission to the hospital.

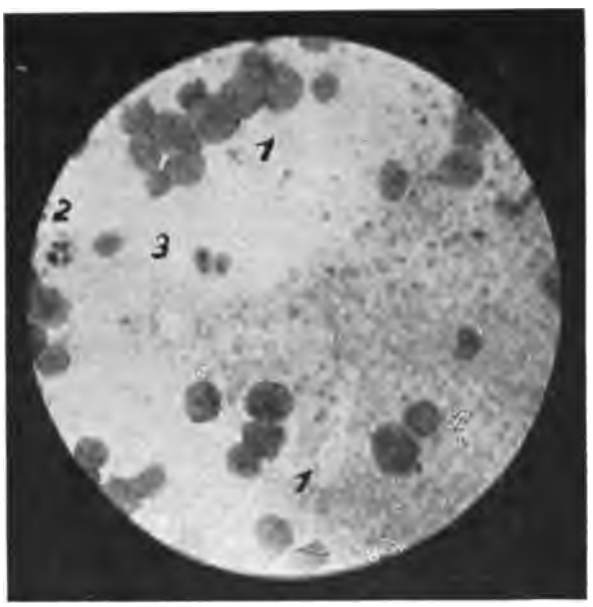


Fig. 4 Lymphatic Leukemia.
1. Large and small lymphocytes.
2. Polymorphonuclear cell.
3. Erythrocytes.

Hodgkin's Disease (Pseudoleukemia)

Hodgkin's disease is not a blood disease. It is mentioned here because the synonym, pseudoleukemia, is rather misleading, and because the symptoms do resemble the leukemias. The characteristic feature of this affection is the enlarged lymphatic glands. These glands are discrete, freely movable and not tender to the touch. Groups of nodes sometimes reach enormous size, and pressure symptoms may become prominent (cyanosis, edema, dyspnoea, dysphasia, etc.). The cervical glands are generally the first to enlarge, and the other glands change in approximately the following order—axillary, inguinal, thoracic and abdominal. It should be noted that tubercular glands tend to fuse and break down, and that in these cases there is usually a tuberculosis of the lungs. However, we may have both diseases in the same patient. The gland enlargement is not as marked as in the leukemias, and the blood pictures in the latter are distinctive.

Blood Picture in Hodgkin's Disease

Hodgkin's disease is extremely difficult to recognize, and diagnosis is often impossible without recourse to the excision and histological examination of an enlarged gland. The blood picture has a negative value. There is usually no increase in the number of the leukocytes, which rules out the leukemias. The erythrocytes merely show the changes common to symptomatic anemia.

Conclusion

This discussion of the anemias and the leukemias is far from exhaustive. It was written solely to remind the busy doctor that cases of this sort occur in every practice, and to review a few points he already knows. None of these diseases are common, except, of course, the symptomatic anemias—but they all come to the general practitioner first. On his ability to properly diagnose the condition depend the remaining few years of the patient's life. So far as is known, pernicious anemia, the leukemias and Hodgkin's disease, are invariably fatal. Even with proper treatment all cases die within a five-year period, and the fulminating cases (acute pernicious anemia, acute lymphatic leukemia) die within a few weeks. If we can ever so slightly lengthen the pitiful life-span of these unfortunates, we will feel the extra time put on the diagnosis well spent.

Footlights on the Feet

Second Paper

Anatomy

By Charles Cross, M.D.,
4623 California Street, San Francisco, Cal.

Knowledge of Prophylaxis Needed

Dr. Cross says the most needed service on feet, in the doctor's office today, is a knowledge of prophylaxis—the prevention of foot ailments. This particularly applies to prevention in children. A service which can be rendered by office and home treatment, and periodic observations. The practitioner qualified and equipped to render this service is assured much practice now neglected.—Editors.

SINCE THE PUBLICATION of several articles on feet in The American Physician and other medical journals,* numerous letters have reached me asking for instructions about beginning the study of this subject.

The number of medical graduates throughout the country who have written and asked for this information has made individual letter writing a task beyond my capacity. For that reason, reply will be made to as many as possible in "Footlights on the Feet."

The most called for service on feet, in the doctor's office today, is a knowledge of prophylaxis—the prevention of foot ailments. (Figs. 1, 2 and 3.)



Fig. 1 Child, age 3 years. Trouble beginning. Os calcis mal-alignment.

* "A Plea for More Careful Examination of the Feet," Medical Council, Philadelphia, April, 1915.
"Strained Toes," Medical Council, August, 1915.
"Golfer's Foot." Medical Record. New York. May 16. 1916.
"Announcing the Non-Surgical Orthopedic Specialty for the Treatment of Ailing Feet, Rebuilding Broken Arches, and Preventing Foot Ailments," California State Journal of Medicine, November, 1919.
"Feet, and Rebuilding Broken Arches," Medical Record, New York, March 27, 1920.
"Feet and Arches (Classification)," American Journal of Surgery. New York. March. 1920.
"Foot Diagnostic Symbols." The American Phycician, Philadelphia, January, 1921.
"Artificial Toes," American Journal of Surgery, New York, September, 1921.
"Footlights on the Feet," now appearing in "The American Physician."

A Much Needed Service

Prevention of foot ailments *in children* is a service which can be rendered by office and home treatment, and periodic observations. The medical man qualified and equipped to render that service is assured of much practice which now goes neglected. It is also an opportunity to render a much needed humane service.

The non-surgical orthopedic specialty for the treatment of ailing feet rebuilding broken arches, and the prevention of foot ailments calls for information about feet which has not yet percolated into medical text-books. For that reason, in beginning the study of the feet, we start with first principles, and get down to a real foundation of knowledge of the human being and begin with anatomy.

The feet being as essential to the comfort and well-being of humans as any other part of the body, it appears about time to stop the habit common in some circles of the pot calling the kettle black. Ignorance about feet and foot ailments is no reason for assailing the subject as being beneath assumed dignity. Trying to clothe ignorance of a subject with the rot of professional intolerance is quite out of date when feet, in good condition, are so essential to physical well-being.

There is much to know about feet which was not taught in our college days, and is not taught today. Therefore, this study of anatomy of the feet may prove to real progressive colleagues a pleasing pastime to review what was learned in the dissecting room.



Fig. 2 Boy, age 12 years. Crippled for life. Neglected and maltreated. Marked broken arch, fourth degree.

It is the knowledge of feet, gained in the dissecting room, which gives to the medical graduate the required foundation upon which to begin his study of the prevention of foot ailments, and the non-surgical



Fig. 3 Child, age 2½ years. Retarded development.

orthopedic specialty for the treatment of ailing feet, and rebuilding broken arches.

To Find the Anatomical Foundation

Today the world calls for scientific knowledge about feet and the best place to find the anatomical foundation is Gray's Anatomy, and Treves' Surgical Applied Anatomy. They are my text-books of choice.

In Gray's Anatomy—foot and leg—chapters on oesteology, articulations, muscles and fascia, vascular system and nervous system, and in Treves' Surgical Applied Anatomy, chapter on ankle and foot, are to be studied. A re-reading of those chapters once a month for a year may prove valuable in laying a good foundation.

Following that, let us seek a knowledge of surface anatomy, which is very important. This course of lectures and instruction begins with anatomy of the normal foot. Emphasis is laid upon the value of the old true and tried methods of acquiring scientific and accurate information by inspection, palpation and mensuration. To that is added information to be gained from a study of photographs, blue-prints, X-rays, arch craft, and many other interesting details. Also plaster casts are made with the feet in action and give much accurate information.

Helpful in Studying Surface Anatomy

In studying surface anatomy colored crayons are very helpful. With colored crayons, or actors' line colors, the locations of important structures and areas are graphically illustrated. This plan of study greatly facilitates acquiring a knowledge of anatomy.

To graphically indicate underlying structures in the study of anatomy, my preference is for Stein's Cosmetic Line Colors. With four different colors, black, No. 17, for structures; green, No. 19, for nerves; vermilion, No. 14, for arteries, and blue, No. 10, for veins, make an ample assortment for practical purposes. These colors can be had for twenty-five cents each from any drug store frequented by actor folks. The colors can be readily removed with gasoline or kerosene and leave the foot unsoiled. Actors usually use cold creams to remove colors, but because of their petroleum or vaseline base, no preparations with such a base are recommended for use on the feet.

Footlights on the Feet, No. 3, to appear later, will take up other and interesting data about feet, leading up to examination, survey, diagnosis and treatment.

Toxic Encephalitis

AN INTERESTING CASE REPORT GIVING HISTORY AND SYMPTOMATOLOGY, WITH SOME UNUSUAL FEATURES

By Drs. Lanning E. Likes and C. T. Knuckey,
Lamar, Col.

DONALD D., age 12, well nourished, well developed and normal in all respects except that his parents stated that he was always "highly nervous." For about ten days he had not been feeling well, but continued attending school and delivering papers on his route.

The only interesting feature at this time was that while playing he was struck by a small rock in the right parietal region, which raised quite a lump, but caused no other symptoms.

On Saturday he went camping with the Boy Scouts. On Tuesday evening following he refused supper, but ate watermelon which he vomited thirty hours later. Wednesday evening he complained of pain in his bowels, vomiting a few times about midnight. The colicky pains were becoming quite severe. The parents gave calomel, castor-oil and enemas with good results, but with no relief.

The child getting no better, but apparently becoming unconscious, the parents became alarmed and Dr. Likes was called in about 7.30 A. M., Thursday, September 9. The patient was then in comatose condition, temperature, axillary 97° F., pulse 70. Lungs and heart negative. No adenopathy. Lower abdomen painful, evidenced by agonized expression and constantly putting hands to abdomen and crying out. Rigidity of abdomen, relaxed at times, but becoming rigid on attempting palpation. Pupils normal to light and accommodation, and remained so until the end. No Babinski. Plantar reflexes present. Both knee jerks present, exaggerated in left. Tossing both arms. Slight spasticity in arms, legs, neck and jaw. No retraction of head at this time.

Findings in Consultation

Dr. Knuckey saw him at 9.30 in consultation, and the findings were practically unchanged. Bowels and bladder emptying involuntarily. Bowel movement quite offensive, grayish-yellow in color. Urine negative—1028 sp. g., acid, no albumen or sugar. Microscopically negative.

No tympanites at any time. Not much change in condition during the following twenty-four hours, except deepening of coma and increase in spasticity, especially in left arm and leg. Left arm kept moving almost constantly. Seemed to have lost voluntary control of right arm and leg. Head drawn to left side and neck rigid. Jaws set and necessary to pry mouth open to give medication and fluid which he swallowed fairly well. No elevation of temperature or acceleration of pulse. Bowel movement extremely offensive, consisting of yellowish mucous, Bladder emptying frequently in small amounts.

By afternoon temperature was 99.2° F. axillary, and pulse 96. Coma deepening and slight increase in spasticity, general appearance not good, the facies

showing a slight pinched expression.

Patient Failing Rapidly

From then on the child failed rapidly. At midnight there was a slight attack of respiratory paralysis, artificial respiration necessary to resuscitate him. Temperature 100⅘ axillary. Pulse 120. Slight cyanosis. Slight ptosis of left eye, and right eye closed. By 10 A. M. Saturday, September 11, there was almost total inability to swallow.

Mucous rales in throat, marked cyanosis, complete paralysis of right arm and leg, but all showing spasticity on passive motion, still more marked on left side. Patient continued to fail and death took place at 2 A. M., September 12, practically three days from beginning of acute symptoms.

The Unusual Features of the Case

The unusual features of this case were the acuteness, the early cortical involvement which preceded any elevation in temperature or pulse by 30 hours, the early progressive coma, the mild objective abdominal symptoms which consisted merely of rigidity in the lower abdomen which seemed to be only present when brought on by palpation. Unfortunately it was impossible to secure a post-mortem, so pathological findings cannot be given. Probably toxins from the intestinal tract were the cause or perhaps lowered resistance and thus helped to develop the encephalitis.

The question arises, "was the blow on the head sufficient to cause a locus minor resistentiæ" so the toxins found a favorable field to attack.

Medical Diathermy

GIVING ESSENTIAL EQUIPMENT, FUNDAMENTAL PRINCIPLES, TECHNIQUE, AND THERAPEUTIC INDICATIONS

By Elnora Cuddeback Folkmar,
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1730 Eye Street, N.W., Washington, D. C.

Necessary Heat Without Tax on Body Forces

Medical diathermy is not a panacea for all diseases. Yet its indications are many, and it is a most excellent adjuvant to other therapeutic measures. In many cases it is the indicated therapeutic agent par excellence. For diathermy is heat, and heat is necessary to life, to health, to function, to repair in injury, and to the restorative processes when disease is present. And diathermy furnishes the needed heat where it is wanted and when it is wanted without taxing the heat-regulating forces.

This first installment goes thoroughly into definition, essential equipment, fundamental principles, technic and therapeutic indications. We hope you will get as much of a stimulus as we did from reading Dr. Folkmar's excellent paper.—Editors.

DIATHERMY is a term introduced by Nagelschmidt in 1907 for the heating through and through of the body, or a part of the body, by the passage through it of a high-frequency current. In deference to the French physiologist, who first discovered that the passage of a high-frequency current through the body produced no other effect than warmth, the current used in diathermy is often called the d'Arsonval current. The diathermy current may be employed either as a medical or surgical means of treatment.

Medical or Therapeutic Diathermy, the subject of this paper, is the use of the flow of a high-frequency current through the body as a therapeutic means for the production of only a moderate rise in temperature without any destructive effect. This is what Geyser calls physiological diathermy. ***Surgical Diathermy*** employs an active or smaller electrode, so small in comparison with the larger electrode as to deliver an intense current which is destructive to tissues.

Medical diathermy may be either general or local. General diathermy is often called autocondensation, and local diathermy was called direct diathermy by d'Arsonval.

General Diathermy is the increasing of the general body temperature from .5 to 2.5 degrees Fahrenheit above normal by the passage of a high-frequency current.

Local Diathermy is the raising of the temperature of a special area of the body to any degree desired within physiological limits by the passage of a high-frequency current. This may vary, according to Doyen, from one to thirty degrees, since he finds that living cells can withstand a rise of thirty degrees without damage. In practice, a rise to ten degrees is found to be therapeutically efficient.

Physiological Effects of Medical Diathermy

The warmth of diathermy differs from that produced by any other artificial method. It is produced within the tissues, within the interior of the body. When the diathermy treatment is applied as a general treatment or as a prolonged local treatment of

a considerable area, every cell in the body participates in the warming. Dr. de Kraft notes that centers of heat are formed in countless numbers of cells and that this heat is slowly dissipated, especially in the more resistant structures, such as bone. The deeper the seat of the warmed cells, the slower is the loss of the stored-up heat. The less vascular the structures heated, the more gradual is the loss of warmth. The sympathetic system is stimulated. This is evidenced by increase in oxidation and elimination, by increase in glandular secretions, by increase in phagocytosis, by increase in physical and mental vigor.

Therapeutics of Nature

When Nature attempts to restore an injured part, or to eject an invading body of germs, she produces increased heat—inflammation, fever. This is done by the expenditure of energy. Sometimes Nature's work is overdone and we have resulting adhesions, fibrosis, scars. Sometimes Nature is unequal to the task set before her. She fails in her restorative and repulsive processes and we have the death of myriads of wandering cells, leucocytes (pus and necrosis of tissue) and overwhelming toxemia. Diathermy produces heat necessary to normal function, to the restoration of altered functions to normal, to the repair of damaged tissues, to the more successful repulse and destruction of an invading enemy, without any expenditure of energy on the part of the heat-regulating forces of the body.*

Essential Equipment

The requisites for diathermy are a good diathermy apparatus, a condenser couch or chair, electrodes of various sizes, shapes, and materials, conducting cords, clips for attaching cords to electrodes and materials for holding electrodes for local diathermy in place. The limits of this paper exclude any lengthy discussion of the diathermy machine. Suffice it to say that for general diathermy those machines which give a relatively higher voltage, that produce a current more nearly of the type of the original d'Arsonval current, seem to give the best results. This is also true when skin heating is desired by means of the condenser electrode. These machines have a frequency of 500,000 to 1,000,000 oscillations a second. For local or direct diathermy those machines which have relatively a very low voltage and relatively a very high amperage, an amperage up to three amperes with 3,000,000 oscillations a second give the best results. A machine which gives a proper current for X-rays is not necessarily a good machine for diathermy.

Most diathermy models on the market deliver a current sufficiently satisfactory for medical diathermy when supplied by the street alternating current of 110 volts. These can be attached to the lighting current of a house. For machines to be used on the direct current a motor generator is employed to generate an alternating current to supply the diathermy machine. In this process considerable voltage is lost unless a special step-up transformer is employed and the efficiency of the machine is reduced between the motor generator and the machine. For fire safety special wiring should be installed when a motor generator is used.

The spark gap is the most sensitive and important part of a high-frequency machine. It must be kept clean.

The Condenser Couch or Chair

Experiments of de Kraft, Titus and others have shown that for the d'Arsonval current as produced from a static machine or from a high-voltage coil machine a thick dialectric should be employed for the condenser couch. The dialectric is the insulating material used between the metal plate of the couch and the patient. Their experiments also show that for machines of relatively low voltage and high amperage, a thin dialectric, such as is used by McIntosh for their autocondensation pad and by Wappler and Campbell in the construction of condenser chairs, gives the best results.

The Handling of the Patient

If the condenser couch (thick cushion) is used, the patient lies on the dialectric and holds in his hands a metal or non-vacuum glass electrode. If the condenser chair is used, the patient sits in the chair and places his hands in contact with the metal plates or knobs on the arms of the chair, and in case of the deKraft chair also places his bare feet on a foot-rest which is covered with metal. In any case, one terminal of the diathermy machine is connected to the condenser couch or pad, or to the back of the chair, and the other terminal of the diathermy machine is connected to the arms of the chair, or to the foot-rest or to both arms and foot-rest.

The patient, for general diathermy treatments, should be dressed in loose clothing. A bathrobe is ideal. There must be no constricting bands to interfere with circulation.

It is a good plan to take the blood pressure, the pulse, and the temperature before every general diathermy treatment. In any event this must be done before the first treatment. In certain cases temperature and blood pressure should be taken again after treatment.

Before attaching conducting cords to the terminals of the diathermy machine make sure that the spark gap is closed, and that the current supply to the machine is turned off.

Strength of Current Used

The strength of current generated by a diathermy machine is measured by a hot-wire amperemeter. The

* Rechon observed great change in the consumption of oxygen and the elimination of CO_2 before and after diathermy. Before the treatment the oxygen consumed in 10 minutes was 2.95 litres. After 30 minutes treatment it fell to 2.14 litres. Before treatment the CO_2 elimination was 2.64 litres. After 30 minutes' treatment it fell to 1.96 litres.

scale of the latter indicates a maximum of 1.2 to 3 amperes according to the make of the machine. Reliance, however, should not be placed alone on the reading of the hot-wire amperemeter when giving treatments.

Joule's First Law

If the part of the body through which the d'Arsonval current passes has a low resistance, the amperemeter will indicate a strong current while the body is only slightly warmed. This is in accordance with the first law of Joule: "The amount of heat generated in any circuit is proportional to the resistance, provided the current strength is constant." If, however, the part of the body traversed by the current has a high resistance, only a small amount of current will flow, yet the part will be much heated because the greater part of the electrical energy is converted into heat in overcoming resistance. What the amperemeter really indicates is the strength of current passing through its resistance wire. The current passing through a part of the body thrown into a d'Arsonval circuit will be the same as that which passes over the hot wire, but the amount of heat generated in the tissues traversed will depend on the resistance of the tissues to the circuit, the area of the electrodes, the time the current passes, and the strength of the current.

Joule's Second Law

Joule's second law here holds good: "The amount of heat developed in any circuit is proportional to the square of the current passing, provided the resistance is constant." This means that the increase in heat varies directly in proportion to the square of the current strength. If the current strength is doubled the temperature will be increased fourfold, if trebled the increase in temperature would be ninefold. This explains why a patient who feels only a comfortable sensation of warmth may complain of burning if the current strength is only slightly increased.

The amount of heat produced in a given area bears a direct relation to the size of the electrodes. The size of the electrodes governs the density of the current when a certain unit of current is passing. If we employ in local diathermy a pair of electrodes of the same size, say, four by five inches, or 20 square inches to each electrode, and then increase the size of the electrodes to six by ten inches, the current density will be reduced to one-third what it was before, the current in the second instance being distributed over 60 instead of 20 square inches. When we change the size of the electrodes we change not only the current density but the area of the mass of the intervening tissue to be heated.

Generally speaking, when electrodes are of equal size, the greatest degree of heat is generated midway between the electrodes. When the electrodes are of unequal size, the greatest degree of heat generated will be relatively near the smaller electrode. A safe rule when giving diathermy treatments is never to give over 100 milliamperes to the square inch of surface of the smaller electrode. This caution is to be especially observed in treating areas of anesthesia, areas of paralysis, and when treating mental defectives. In all other cases the comfort of the patient is the best guide.

Joule's Third Law

In any diathermy treatment the intensity of the heat produced is in proportion to the time the current passes. This is in keeping with Joule's third law. But this proportion has some variations in the use of diathermy medically, owing to the circulation of the blood. At the beginning of a diathermy treatment the circulation of the blood tends to prevent the overheating of the tissues, but the longer the application, the less the cooling effect of the blood, and the relatively greater increase in the amount of heat developed from the passage of any given current strength. For this reason the current strength should be gradually diminished during the second half of the time allotted for a treatment.

Another thing that must be taken into account is the stimulation of reflexes by strong currents. Experiments of Fürstenberg and Schemel demonstrate the advisability of the use of milder currents over longer periods of time to reach the deeper structures. They found that a higher temperature could be developed in the interior of the stomach with 300 milliamperes of current than with 2000 milliamperes. Dr. de Kraft explains this apparent paradox by pointing out that when strong currents are used the reflexes are stimulated to such an extent that all functions that regulate the heat of the body are activated. The weaker current offers no stimulation to the reflexes; it steals by the reflexes.

Path of Flow of Current

The power of the living body to conduct high-frequency currents is due to the presence of ions in the circulating and tissue fluids. The drier tissues like bone and cartilage are much more resistant to the flow of the current than are the soft tissues of the muscles and viscera. Many experiments have been performed to ascertain the degree to which the temperature of different portions of the body can be raised by medical diathermy currents. It is not known to a certainty just what is the path taken by high-frequency currents in the body. De Kraft believes that in general diathermy the path of the current flow is along the large blood vessels. For the patient lying on the condenser couch the wrist is the narrowest part of the circuit. It receives the greatest density of current, offers the highest resistance, and attains the maximum degree of temperature. If the de Kraft chair is used the ankles, like the wrists, offer great resistance and attain a similar maximum degree of temperature. Cumberbatch calls attention to the

fact that the flexor surfaces are heated more than the extensor. This is thought to be due to the high resistance of the cartilage and bone of the extensor parts. The major portion of the current, following the line of least resistance travels through the soft flexor tissues rich in blood and lymph vessels.

If the limb is flexed the difference in heating between the flexor and extensor surfaces is still more marked. The effect of shortening the distance traversed by the current by flexion of a joint can be readily demonstrated by placing an electrode in the palm of the hand and flexing the wrist. The anterior region of the wrist will be heated some degrees higher than the posterior. Next, place the electrode on the back of the hand and dorsiflex the wrist as much as possible. In this position the shorter path is along the more resistant tissues, and it will be seen that there is now very little difference in warmth between the anterior and posterior surfaces of the wrist.

Electrodes for Local Diathermy

The most satisfactory material for electrodes is a thin sheet of lead. This can be cut and moulded to fit any area to be treated. The size of the electrodes used will depend on the area to be treated and the depth beneath the skin that the greatest warmth is desired. When the electrodes are of unequal size the larger electrode is referred to as the indifferent electrode and the smaller one as the active electrode.

The author attaches a small strip of lead foil to the center of each electrode by means of a strip of adhesive tape. This gives a convenient means for attaching the conducting cords.

Placing the Electrodes

Care should be taken in placing the electrodes to see: (1) That they are so placed that the current will flow through the area to be treated. Electrodes should always be placed on opposite sides of the region to be treated, and never both electrodes on the same side. In the latter case the current would pass from the edge of one electrode to the edge of the other and there would result only a warming of the skin. The current should pass from the surface of one electrode through the region to be treated to the surface of the other electrode. If greater warmth is desired nearer one surface than the other, the active electrode should be placed on that surface.

(2) That the electrodes are so placed that the distance between their edges is greater than the distance between the centers of their surfaces, otherwise the major flow of current will be from edge to edge and little from center to center of the electrodes. This is especially important in treating joints, where one electrode is placed on the anterior and the other on the posterior surface of the joint. Or the electrodes are placed on either side of the joint, or one electrode is placed above the joint anteriorly and the other below posteriorly. In selecting electrodes of a size to give the greatest heat in the center of a joint it may result that some parts of the joint are uncovered. If so, the position of the electrodes may be so placed for the next treatment that the current flow will be at right angles to that of the first application. This is termed the cross-fire method. It is particularly useful in treating pelvic troubles.

As more heat is produced along the flexor aspect of a flexed joint, less heat will reach the interior of a knee when the patient is seated in a chair with knee bent, than when recumbent with the leg extended. To heat wrist, fingers, or toes, one electrode should be placed on the dorsal and the other on the palmar or plantar surface.

Sometimes one electrode can be placed on or very near the part to be heated. In such a case the active electrode, the small electrode, should be placed near the part to be treated, and the larger or indifferent electrode so placed that the path of the flow of current traverses the part to be warmed. For example, in treating a cervicitis or adhesions about the cervix, apply the active electrode (a metal vaginal electrode) in the vagina and the indifferent electrode on the abdomen just above the pelvic bone.

Holding Electrodes in Place

In the application of large electrodes to anterior and posterior surface of the body, the patient should lie on pillows. The weight of the body will hold the lower electrode in place, the upper electrode may be held in place by sand bags, small blankets, or both. Or the patient may hold the upper electrode, covered with a folded bath towel, in place with the hands.

Electrodes about joints may be held in place by bandages. The smaller the electrodes the more carefully must they be secured in place, otherwise there will be a spark gap between the electrode and the skin and burning will result.

All electrodes should be well moistened with liquid soap before being applied to the skin.

Conducting Cords

Conducting cords should be well insulated. They should not be too heavy or very long (not over five feet) as their weight tends to pull the electrodes away from the skin. They should be firmly attached by proper clips to the electrodes. Otherwise there may be a sudden separation from the electrode with an unnecessary shock and a burn. The cords must likewise be firmly fixed to the outlet terminals of the d'Arsonval apparatus.

Regulation of Current

When all is ready and the spark gap closed, the current is turned on to the machine and the spark gap is very gradually opened. Ask the patient repeatedly if any pricking is felt. If so, stop, turn off current and readjust the electrodes. If not, gradually increase the current flow to the milliamperage desired. Allow from one to five minutes between each increase in flow. If a high amperage is thrown on rapidly the skin soon becomes very hot, and but little of the

current flow will reach the deeper tissues. If increase in number of milliamperes of heat is slowly made the deeper tissues will be heated while the skin is only slightly warmed.

Duration and Frequency of Treatment

Dosage in diathermy is a thing that can be learned only by experience. In treating small areas with local diathermy, the number of milliamperes of current should never exceed 100 milliamperes to the square inch of the active electrode. In most cases the comfort of the patient is the best guide. The duration of a treatment will depend on the condition to be treated and on the patient. Treatments vary in duration from five minutes to an hour. Frequency of treatment also depends on the condition to be treated and the ability of the patient to come for treatments. In most cases daily treatments are advisable at first, then thrice weekly, and later twice, or even once weekly.

Heating of Superficial Tissues

When it is desired to limit the heating to the skin or most superficial tissues, a non-vacuum, a bakelite, or a glass condenser electrode may be used for the active electrode. The gases of ozone and nitrogen formed in the region of the sparks from these condenser electrodes are germicidal in their action on the superficial layers of the skin. The diathermy current does not pass through the material of which the condenser electrode is made, but charges are induced in the part with which the electrode is in contact.

Indications for Medical Diathermy

Medical diathermy is not a panacea for all diseases. Yet its indications are many. It is a most excellent adjuvant to many other therapeutic measures. And in many cases it is the indicated therapeutic agent *par excellence*. For diathermy is heat, and heat only, and heat is necessary to life, to health, to function. Heat is necessary to repair in injury, to the restorative processes when disease is present. And diathermy furnishes the needed heat where it is wanted, and when it is wanted, without taxing the heat-regulating forces.

Diathermy in Diseases of the Circulatory System

Diathermy has a profound effect on the circulation. General diathermy tends to reduce hypertension and to raise hypotension to normal tension. Local diathermy causes a local dilatation of the blood vessels of the part treated. Blood from the surrounding healthy tissues rushes into the dilated vessels. This influx of healthy blood replaces the stagnant poisonous blood, and increases cell metabolism and germ resistance.

(To be concluded in next issue)

Dibromin

An Ideal Moist Dressing

By David Yandell Roberts, M.D., F.A.C.S., Surgeon-in-Chief, L. C. & L. & Louisville Division of the L. & N. R. R. Francis Bldg., Louisville, Ky.

A New Antiseptic and Germicide

The author has used dibromin in more than eighty cases of surgical infection in the past year, with uniformly good results. It is an active germicide, at least equal to the chlorine compounds, and has met all the requirements of a surgical bactericide because of its ease of preparation, its efficacy, and the absence of irritation, odor and color. Particularly has it proved ideal in those cases requiring irrigation and where a continuous moist dressing was desired.—Editors.

In the treatment of infected traumatic wounds one of the perplexing questions that so frequently confronts the surgeon, and especially those doing railway or industrial surgery, is the selection of an effective germicidal agent but at the same time devoid of irritation, is easily prepared and applied, and which will not stain the tissues or linens, etc.

Various agents have been used by the profession from time to time, most of which have had their advantages, but at the same time certain disadvantages. The chlorine preparations, such as the Dakin, Carrel-Dakin solutions, and Chloramine T, are effective germicidal agents, but have certain objections. Special skill and technique is required to properly prepare them, and to be effective they must be freshly prepared and contain between .45 and .50 per cent. free chlorine. Should they set free higher percentages of chlorine than this they are highly irritating, and should the amount of chlorine be below this they are ineffective and fall short in abating and overcoming the infection.

The saline solution has its place, but in the more virulent forms of infection, such as those produced by the colon bacillus, gas bacillus, and others, a more potent and reliable germicide is required, as in many instances the life or limb of the patient may depend on a prompt control of a local infection.

A New Antiseptic and Germicide

In the last year I have used a new agent, called dibromin, which is not only an active germicide, at

* Read at the meeting of the Attending Staff of Sts. Mary and Elizabeth Hospital, February 3, 1922.

least equal to the chlorine compounds, but has met all the requirements of a surgical bactericide, by reason of ease and preparation and the absence of irritation, odor and color. Particularly has it proved itself ideal in those cases requiring irrigation and where a continuous moist dressing was desired.

Dibromin, chemically known as "dibrom-malonyl ureide," is an oxidizing agent containing 56% available bromine in chemical combination and from which the bromine is readily set free. Unlike the other oxidizing agents, the chlorines, the peroxides, etc., which attack normal cell tissue with as great activity as they do micro-organisms, dibromin has a peculiar affinity for the delicate structure of bacteria, but has practically no action upon the normal living cell tissue, which no doubt accounts to no small extent for its non-irritability.

Dibromin, according to the Hygienic Laboratory method of assay, has a phenol coefficiency of 105 as against 55 of Chloramine T, determined by the same method, or almost double the germ-killing power of the chlorine derivative.

The ease with which solutions of dibromin may be prepared for use is a big factor in its favor, as the chemical is put up in 6-grain capsules, with which any strength solution desired may be easily prepared and ready for use in a short time, as the salt is readily soluble in either warm or cold water. Dibromin may be used in varying strength solutions. In my experience the best results have been obtained with the 1: 5000 solution (1 capsule, or 6 grains, to ½ gallon of water), which has not only proved its germicidal worth, but in this dilution has been absolutely free of any irritation either to the surface irrigated or the surrounding skin where the moist dressing was maintained.

Case Reports

The following case reports may be of interest:

Case No. 1.—Mr. T. M., age 70, married, and cabinetmaker by trade, presented himself with a ragged and torn wound, extending over the index finger and thumb of the right hand, the result of a ripsaw injury. Aside from the pain and profuse bleeding there was a loss of motion, the result of extensive laceration of both thumb and index finger. Upon examination a compound, comminuted fracture of the middle phalanx of the index finger was found. The treatment consisted of cleansing the wound, reduction of fracture, suturing of the wound and a sterile dressing applied. Gangrene developed in finger, necessitating amputation at the first joint. An infection of the whole hand followed the amputation. Wet dressings with dibromin were now commenced, using a solution of 1: 5000, and applied twice daily for one week, and then once daily for two weeks, at which time the wound was sterile, the patient making a rapid and satisfactory recovery. The dibromin undoubtedly shortened the course and duration of the infection. No irritation whatsoever.

Case No. 2.—Mr. W. W., aged 35, single, boilermaker. Came to my office complaining of severe pain in thumb of left hand. Upon examination found thumb greatly enlarged with fluctuation over the last phalanx, redness, much tenderness, with loss of motion. No history of injury could be obtained. Diagnosis: Tenoarthritis of thumb. The treatment consisted of a free incision over the medial line of the palmar surface of the thumb, and the wound dressed twice daily for one week with gauze saturated with a solution of dibromin 1: 5000. The wound was then dressed once a day for a week, at which time the wound was free from pus, aseptic and granulating rapidly. Patient made a hasty and uninterrupted recovery, and no complaint of irritation.

The two illustrative cases are included in this report merely to show the unmistakable influence of dibromin solution in controlling local infections. The good results in these two cases are indicative of the effects obtained in more than eighty cases of surgical infection, which presented a variety of conditions and which I have treated with dibromin solutions during the past twelve months.

Blood Cholesterol and Cancer

In summing up his atricle, "The Blood Cholesterol, Its Importance and the Value of Its Determination in Cancer Research," in the *Canadian Medical Association Journal*, Georgine Luden, M.D., Ph.D., first assistant in cancer research, Mayo Foundation, says:

1. Cholesterol is an important chemical constituent of the blood.
2. There is evidence that the blood cholesterol plays an important part by promoting cell proliferation and by combating bacterial invasion.
3. The test for cholesterol in the blood is not a diagnostic test, but it furnishes valuable information concerning the efficiency of cholesterol metabolism.
4. The activation of cholesterol metabolism after radium treatment demonstrated by the blood cholesterol determinations, and the parallel improvement of patients suffering from malignancy indicate that there is an intimate connection between disturbances of cholesterol metabolism and malignant disease.
5. Cholesterol metabolism can also be improved by dietary measures, suggesting that beneficial effects may be expected from dietary measures tending to reduce the cholesterol intake with the food, combined with radium therapy.
6. Since the life of the cells depends upon their blood supply, the chemical composition of the blood must be equally important; radium treatment changes the chemical composition of the blood, as is shown by blood-cholesterol determinations.
7. Spontaneous cures have been observed in well-authenticated, inoperable, "hopeless" cases of cancer: this proves that the body can wage a winning fight against malignant disease; as therapeutic measures had proved ineffective in these cases, some internal readjustment must account for the cures. Chemical investigations will solve the cancer problem by revealing the nature of this internal readjustment.

The Greedy Colon

Radical Treatment of Auto-Intoxication by Colonectomy

By Norris W. Gillette, A.B., M.D.,
Surgeon to Robinwood Hospital, Toledo, Ohio

If your patient were constipated would you excise his colon? There are good surgeons, with good reasons, that do. Read Dr. Gillette's paper and see whether you would do it or not.—Editors.

ABNORMAL absorption of normal intestinal contents with resultant auto-intoxication and general constitutional effects is so common that it falls within the daily work of every practitioner of either medicine or surgery.

Almost all individuals, particularly those living a sedentary existence, suffer at times from faulty excretion. With most people the complaint is temporary and easily relieved by common cathartics, but with many the inability of the intestines to properly excrete is a chronic and serious complaint leading to migraine, rise in temperature and pulse, lack of energy, mental and physical fatigue, flatus, hemorrhoids, prolapsed rectum, and, I am sure, in severe cases to an uncomfortable life and a more or less shortened existence. The absorption of the bacterial products, of phenol, indol and skatol in small amounts over a long period of time is none the less lethal because slow in its action.

Etiological Factors

While the effects are obvious the causes are many times not appreciated. In general, I believe, they may be classified as follows:

1. Failure to obey the call of defecation.
2. Intoxication from drugs or some local infection.
3. Neurosis.
4. Lack of proper exercise.
5. Obstruction, adhesions, and abdominal tumors.
6. Weakness of intestinal reflex or musculature.
7. Weakness of abdominal or pelvic musculature.
8. Ptosis of abdominal viscera.
9. Excessive absorption of liquids leaving hard and bulky feces.
10. Excessive digestion of food in the colon.

The constipation resulting from these causes can in most cases be corrected by habit, the judicial use of cathartics, treatment of constitutional disease, exercise, or abdominal supports.

The Greedy Colon

The excessive digestion of food in the colon, however, has not been amenable to ordinary treatment, and it is this type of case that I wish to speak about in particular. Arthur F. Hurst, of Guy's Hospital, London, has properly given to this class the name of "greedy colon," for the reason that the cecum accepts the normal contents from the ileum, and starts the absorption that takes place throughout the colon, leaving only a small bulk to be excreted. The loss is not entirely due to absorption of fluids, though, of course, this accounts for a part. There is an actual diminishing in amount of fat, cellulose, and nitrogen.* This absorption of starch cells and muscle fibers takes place in all types of constipated stools, but is particularly practiced in the greedy colon. In constipation due to any other cause there is a slowing up in the rate of speed of the passage of feces through the colon, so that there is more ample opportunity and time for the absorption, but in the case of the greedy colon there is no diminished rate of movement, but a very great loss of bulk in a short time. This increased absorption produces the effect of a severe and chronic constipation.

The Ineffective Use of Cathartics

The use of cathartics to increase an already active colon only tends to demand an ever increasing and more drastic use of them, so that in the end no real benefit can be expected. Such an aid to defecation as agar-agar, while it does not delay absorption, may be given with some benefit because it allows enough bulk to reach the rectum to stimulate the reflexes of defecation and causes an early passage, instead of waiting for enough fecal matter to accumulate to stimulate them. This cathartic only hinders the absorption for such a time as the feces would lie in the rectum, but is of no value throughout the major part of the colon where most of the damage is done.

Colonectomy

The best method, I believe, to permanently relieve this condition is to eliminate the colon entirely by colonectomy, but it can be done satisfactorily in many cases by the short circuiting method of "Arbuthnot Lane" of amputating the terminal ileum from the colon, closing the opening into the cecum, and transplanting the ileum by an end to side anastomosis of the small intestine into the sigmoid flexure. After this operation toxic absorption from the colon is usually corrected.

Sir Arbuthnot Lane advocates the elimination of the colon by colonectomy for all cases of chronic and obstinate constipation with evident auto-intoxication in which short circuiting is of no avail, and I believe with great deal of justification, for without doubt this operation relieves from suffering and often from

* (Deutsche Archives from Klinische Medicine—1904.)

chronic invalidism and lengthens the life of the patient.

The following is a case in point by reason of the excellent result obtained.

The Case

Mr. F. S., age 26, single, occupation, elevator boy. No family history of hereditary or infectious diseases. Father died of Bright's disease. Mother living and well. Three brothers and two sisters living and well. One sister died of influenza.

Past history:

Measles at age of 8. Tuberculosis of left int. malleolus in 1910, which was operated on in Germany. This drained for three years before it healed, but has not opened since. Had polyps of nose in 1920, which Dr. Thomas Hubbard removed successfully. Has never been troubled with sore throat, tonsillitis, or cough. Has been examined repeatedly for pulmonary T. B. C. because of T. B. C. bone, but none has ever been diagnosed. Has been markedly constipated for years, and only the most severe and drastic cathartics would keep his bowels open. He felt markedly toxic due to the fact that his bowels did not act. Denies venereal disease.

Present complaint:

For past two weeks bowels have been unusually sluggish. Has taken many cathartics and enemas that have done him little good. When passed, the feces were very putrefactive and in small hard masses.

Physical examination:

Temp., 98°; pulse, 80; B. P. S., 118, D. 80; resp., 18 and regular; weight, 120, three months previous, 127; height, 5 ft. 3 in. Appearance, poorly nourished. Skin has unhealthy pallor.

Eyes *myopic*. React to light and accommodation. Throat negative. Nose somewhat blocked on both sides by thickening of mucosa. Teeth, fair condition. Hearing normal.

Neck, no enlargement of glands or thyroid. Chest, hyper-resonance on rt. chest only. Otherwise negative. No rales or dullness. Heart, no enlargement or murmurs. Abdomen, soft and full. Movement of gas under fingers of colon. No pain over abdomen or tenderness. No distention. Genito-urinary system negative. No venereal history. No enlargement of glands. Hernial rings not enlarged. Neuromuscular reflexes negative. Bones, left int. malleolus shows scar of operation and deformity of bone. Ankylosis of ankle partial. Bones and joints otherwise negative.

Laboratory findings by Dr. A. H. Schade:

W. B. C., 5,400; R. B. C., 5,208,000.

Hæmoglobin, 95%. Wassermann negative. Urine, negative to albumen, sugar, bile and blood. Indican present. Microscopical amorphous urates, calcium-oxalates, few pus cells and large amounts of mucous. Few bacteria present.

X-ray report of Dr. A. J. Hartman:

Habitus, hyposthenis.

Esophagus, patent.

Stomach, hypotonic tone, normal size, free mobility, active peristalsis, no tender points or filling defects, normal position, fish-hook shape, normal position, no incisura, four-hour emptying time, no six-hour residue.

Pylorus, normal position and patent.

Duodenum, normal size, regular contour, active peristalsis, no tender points, patent, incomplete evacuation.

Jejunum and ileum, normal with no delay. Appendix not seen.

Colon, cecum large and mobile, 24-hour small mass seen. Trace in transverse colon descending very small bulk.

The Operative and Post-Operative Progress

On operation, done under ether, no pathology was found. The appendix was removed as a matter of routine. The terminal ileum was amputated from the colon and inserted into the first portion of the sigmoid flexure by an end to side anastomosis and the abdomen closed. The patient made an uneventful recovery.

The patient was given cathartics on the fourth day of eight drams of ol. ricini and the bowels moved well. At the end of three weeks the patient left the hospital with the bowels moving well and the general health gradually improving.

I have seen this patient at regular intervals since his discharge from the hospital and he has improved steadily in health and strength. His weight has increased and he is no longer constipated, his bowels moving regularly without cathartics. The toxic effects of absorption are entirely absent.

Conclusions and Summary

This is a case in which constant cathartics were of no avail and in no other way, I believe, than a short circuiting operation or a colonectomy could a happy result have been obtained.

1. Greedy colon is a condition of increased absorption in the colon of normal intestinal contents.

2. Cathartics are of little avail in remedying the condition, because the bulk is not present to pass along.

3. Short circuiting operation is, or if necessary a colonectomy, the best method of giving permanent relief in many of these cases.

Do not lay too much stress on albumen in a prostatic's urine. A large part of it is due to pus which becomes decreased through proper treatment of the bladder. The question of albuminuria should be of minor importance in determining the advisability of a prostatectomy.

The Therapeutic Value of the Ice Bag
in
Acute Inflammatory Conditions

BRINGS OUT NEW POINTS AND WIDENS FIELD OF USE OF THIS OLD STAND-BY

By Albert J. Colton, M.D.,
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Physician to the Sisters' Hospital and Consulting Physician to St. Mary's Maternity and Infant Hospital.

As Old As Man

The use of cold in attempted reduction of elevated temperature is as old as man. The feverish animal instinctively plunges into cold water to obtain relief just as the feverish human applies the wet kerchief to relieve headache. Still Dr. Colton brings out new and interesting points on the utility of this excellent remedy. You will agree with us that it is a paper worth while reading—and you will be surprised at the extent of the use to which you can put this good, old-fashioned ice bag.—Editors.

IT IS SCARCELY expected to arouse very much enthusiasm over such a cold topic as an ice bag, but if your results have been as favorable as mine you may warm up to the occasion.

As a therapeutic measure cold in some form has been used from time immemorial and about on a parity with the hot poultice; although probably less frequently on account of the lay mind being prejudiced against the use of cold for fear of a "chill." Its uses were confined largely to the relief of pain and the reduction of high temperatures.

It is seldom that I have found much of any real virtue in the hot poultice except in certain conditions for the relief of pain or hastening suppuration; but many times have I had most excellent results in the proper use of the ice bag.

The Scientific Reason

Since seeing such good results in many cases and in a few the terminations of which seemed almost marvelous, I have tried to figure out the scientific reason for it. After a little reflection it becomes as simple and logical as the art of bread-making or food and fruit preserving by the housewife. She would not be guilty of mixing yeast in her dough and then placing it in the refrigerator to rise. Neither would she put milk or cream in the kitchen back of the stove if she wished to keep it sweet. No, she would place the dough after being mixed with the yeast in a warm place, (not too warm) and leave it until it had become light and porous, and the milk or cream she would place in the ice box. Should you ask her why she placed the dough in a warm place or the milk and cream in the refrigerator, she would probably tell you so that the dough would rise and the milk would keep sweet and not get sour.

A housewife skilled in domestic science would give you a more scientific reply. She would say that yeast which was mixed with the dough contained life or living organisms and in order that it may grow and multiply, heat and moisture are required and in thus growing, gases are given off which make the dough light and porous.

Furthermore she would tell you if the heat were too great the organisms would be destroyed and thus by either means defeating the ultimate purpose of the yeast; the milk she would tell you contained germs which had gained entrance either through accidental or atmospheric contamination, and that the growth of these germs in the milk produced an acid (lactic acid) and caused it to sour and curdle, but if kept in an ice box at a temperature of 40 degrees F. or less the growth of the organism would be inhibited and no acid would develop, and the milk would thus remain sweet.

If you wished to indefinitely preserve the milk the germs in it should be destroyed by heating and the milk then placed in a sterile container hermetically sealed.

The foregoing illustration serves as a perfect analogy for the care and treatment of local inflammatory conditions. The same natural laws are present in the growth of yeast, souring of the milk or putrefaction of food as exists in acute inflammatory conditions.

Inflammation and Micro-organisms

Pathologists tell us that where there is inflammation there are bacteria. Inflammation, therefore, is due to the growth of some pathogenic bacteria in the human tissues. These pathogenic organisms grow best and most rapidly at body temperature or about 100 degrees F.; therefore, when the temperature of the tissue in which the organisms exist is reduced the growth of that organism is held in abeyance accordingly.

* Read before the Aesculapian Club of Buffalo, November 17, 1921.

By holding the organism in abeyance (i. e., by the use of the ice bag) the body is not overwhelmed by toxins, produced by the germs, and nature is given an opportunity to create her antibodies, and thus immunize the patient against the poisons thrown off by the micro-organisms.

The pathogenic organisms that have entered the tissues cannot be destroyed by heat as in preserving milk or fruits without destruction of tissue; but by the local application of the ice bag, the growth of the bacteria may be controlled until nature can come to the rescue with her antitoxins.

Nature is very kind to us and attempts to cure all acute inflammatory conditions, and usually does, if she is not defeated by the rapidity with which the poisons are produced by the invading organism.

Why, in one case a streptococcus, staphlococcus, diphtheria or colon bacillus, etc., may be so very virulent and another so extremely mild I shall not attempt to explain, but will leave for the bacteriologist or pathologist to tell you; but that they may be held in check by the proper use of the ice bag, I am thoroughly convinced.

The Proper Use of the Ice-Bag in Appendicitis

When I say the proper use of the ice bag I say it advisedly. There is no doubt but what the improper use of the ice bag could cause much discomfort and possible damage.

If called to see a small child in which I had diagnosed appendicitis, arthritis, cellulitis or any acute local inflammation, I would not leave the patient by simply saying to the mother or nurse to apply the ice bag. If it were appendicitis I would map out with a pen or pencil on the skin overlying the inflamed area where I wished the ice bag kept.

If it were a small child and a large ice bag I would take a piece of asbestos paper and cut an opening in it the shape and size of the inflamed area which I wished covered by the ice bag. In the absence of asbestos paper I would use several thicknesses of newspaper in the same way and have the ice bag kept continuously over that area either by tying it with a piece of tape or having it held in place by hand if necessary.

If this precaution be taken, no injury is caused by the long continuous use of the ice bag, and the child will not be restless and uneasy; but on the contrary, in a few minutes it will be perfectly quiet on account of the ease and comfort given. One should try to have the ice bag cover an area slightly in advance of the inflamed part and there will be no complaint as to the feeling of the cold.

I am certain that I have aborted many cases of appendicitis in this way, in connection with the use of a heavy paraffine oil and a lactic acid milk made with the Bulgarian lactic acid and acidophilus bacillus given internally.

The surgeon may claim that appendicitis will return. It may, but I have had cases that have gone from five to twenty years without recurrence, and when it does, the patient is in better condition to withstand an operation than if the treatment had not been carried out. I mean by this statement that the patient's resistance has been built up by having secured a higher leucocyte count and having given nature time to build up immunizing bodies, thereby making the patient less susceptible to those complications incident to the operation, such as cellulitis, phlebitis, peritonitis and general infections.

With the early use of the ice bag there would be no necessity of rushing a patient to the hospital in the night for an immediate operation, for fear of a ruptured appendix, except in severe fulminating cases, which would surely not be as numerous under this form of treatment if at all.

No, the organism would be held under control with a possibility—yes a probability—that the local inflammation would entirely subside; if not entirely subsided, it would at least be held in abeyance so that the local inflammatory condition would have an opportunity of being walled off and give nature a chance of getting its immunizing bodies at work and thus giving the patient greater resistance and less susceptibility to spreading infections which are incident to operations in an infected field.

Besides, there is the nervous shock to the patient and relatives by rushing him or her to the hospital without due time and deliberation. I believe if the ice bag were used early there would be no more need of an immediate operation for appendicitis than there would be for operating on acute cholecystitis or salpingitis.

Cholecystotomy and salpingectomy is occasionally done during the first acute attack, but in my opinion when it is done it is at a great risk to the patient and discredit to the surgeon.

I know that these conditions frequently undergo complete resolution when properly treated and if they do not the bacteria becomes less virulent and the patient is in a better and safer condition to undergo an operation later by the immunizing action created by the slow development of the organisms.

When possible assist nature in building up her antibodies by the use of small doses of vaccines made from the offending organisms.

In treating patients with vaccines the desired end is often defeated by use of too large an initial dose. Begin with a very small dose, say five to ten million, and gradually increase, if no reaction occurs, to several billion and in this way completely inmunize the patient against the offending organism.

The Ice-Bag and Vaccines in Epididimitis and Arthritis

Acute epididimitis is another condition in which the ice bag can be used with wonderful results, especially when followed by the use of gonorrheal vaccines.

By this treatment one not only hastens the cure of

the case but lessens the danger of gonorrheal arthritis developing, and I believe that a gonorrheal ophthalmia in a patient thus treated would be unheard of, and gonorrheal ophthalmia is not to be ignored. Although it may not occur oftener than in one-tenth of 1% of the cases of gonorrhea, nevertheless when it does occur it is a real tragedy.

Acute arthritis due either to a focal or local infection is greatly benefited by the use of the ice bag, and it should always be used after breaking up adhesions in a recent infection of a joint. In articular rheumatism where it has been the custom to apply heat to the affected joints for the relief of pain, the ice bag will give much greater and more permanent relief.

Ice-Bag in Endocarditis, Lobar Pneumonia and Typhoid Fever

This treatment applies as well to an acute endocarditis but probably with not quite the same efficiency, as the heart cannot be surrounded by an ice bag as can a joint; therefore, the inhibitory action or growth of the germ is not as pronounced; nevertheless benefit will follow, especially if patient is suffering great pain accompanied by dyspnoea and high temperature. In lobar pneumonia and typhoid fever the ice bag has a dual effect when placed over the seat of the disease. It not only has a tendency to reduce temperature but has an inhibiting action on the offending organism, and is thus again giving nature time to come to her own rescue.

In typhoid fever where the ice bag is used early the patient will be less susceptible to intestinal hemorrhages and tympany which should always be anticipated and dreaded.

The Ice-Bag in Erysipelas and Hemorrhoids

In erysipelas and other streptococcic infections of the skin and cellular tissue the ice bag will give marked beneficial results. By covering the surface with gauze which has been dipped in a boric acid solution with 30% alcohol the value of the cold is enhanced.

Edward H. Ochsner, of Chicago, in his monograph entitled "A Specific for every Pathogenic Organism," says that boric acid in solution with 25 to 50% alcohol is a specific for all strains of streptococcus, staphylococcus albus and citreus and diplococcus of Weischilbaum.

I have used many of Ochsner's specifics in various infections and have had very happy results, especially when combined with the ice bag.

Acute external protruding hemorrhoids is another condition in which wonderful relief is given by the use of the ice bag in connection with the local application of liquor plumbi acetas.

The Ice-Bag in Mammary Abscesses, Carbuncles, Meningitis and Otitis Media

But my most startling results have been in aborting mammary abscesses of nursing mothers, and I know of nothing more pathetic than a young mother with a deep mammary abscess.

The infant must be taken from the affected breast and if the mother shows much sepsis removed entirely from both breasts: then trouble begins. The breasts become engorged, and instead of having one, may have multiple abscesses.

The infant is placed on a bottle, and in so doing, unless one skilled in infant feeding is called in, may mean the loss of the infant, and all for the want of doing the right thing at the right time.

The picture is quite different where the discovery is made early and the ice bag applied. The symptoms of beginning infection of breast are quite characteristic: the mother who has been progressing nicely for several days after delivery except possibly of sore nipples, complains of feeling chilly, and asks for more clothing, or she may have a genuine rigor followed by a temperature of anywhere from 100° to 140° F., and a pulse from 100 to 140. She may or may not complain of pain in her breast, but if the breast be examined a tender and inflamed gland will be found in the breast.

If then the ice bag be applied and a saline cathartic given and diet restricted, in 24 to 48 hours the trouble has gone and an abscess aborted. These results I have seen so many times that I have come to look upon the ice bag as a specific in mastitis of nursing mothers.

I recently controlled a crop of carbuncles in a few days by the use of the ice bag, autogenous vaccines, boric acid and alcohol locally.

In acute infectious diseases involving the brain and spinal cord the good results are not so apparent for the reason that the disease is more diffuse and the organisms are so insulated by the skull bones and vertebræ that the cold cannot penetrate; nevertheless it is the most common remedy in meningitis and cerebro-spinal meningitis that is brought into action.

In otitis media and mastoiditis, like meningitis, the good effects of the ice bag are not so positive, although it is recommended by some authorities. It is well to remember the law of heat and cold, i. e., heat rises and cold descends, therefore, placing an ice bag above the inflamed area is decidedly more efficient than placing it below.

In Conclusion

1. Where there is inflammation, there are pathogenic germs.

2. The growth of pathogenic germs are retarded by the action of cold.

3. Nature attempts always to produce her own cure, in inflammation, by immunizing the patient, if not overwhelmed by the invading organisms.

4. The immunizing process works more slowly than the poisoning, hence retard their growth with the ice bag and give nature a chance to cure the patient.

Morbidity in Obstetrics

To the Editor:

The August number of The American Physician contained a very interesting and useful article on "Morbidity and Mortality in Obstetrics," in which the author, Dr. Inglis, adopts Dr. Tweedy's Standard of Normality and cites very valuable remarks for the reduction of morbidity.

Morbidity in obstetrics means any deviation from the normal condition of a woman, after her delivery. This may not always be due to faults of the accoucheur, but to certain intrinsic or organic causes in the lying-in woman, as is illustrated by the following two cases.

Case 1. Mrs. M., a multipara, was delivered by a midwife, June, 1914. I was called to see her on the twelfth day after delivery and found that the woman was sick since delivery, having had a chill and slight fever, and the third day lochial discharge became scanty and gradually disappeared. In a few days patient continued to have a form of remittent fever with slight chills and sweats—temperature 38° to 40° C.

The midwife ordered vaginal douches of corrosive sublimate. I considered this a possible cause of the puerperal septicæmia. The vaginal examination did not reveal any special cause for the fever; I made up my mind to treat the case symptomatically. The vaginal douches were stopped, as there was no apparent reason to indicate their use. Constipation was relieved by tablespoonful doses of castor oil daily, and the following prescription was ordered:

℞ Quinine bisulphite, grams 3.00, divide into 8 capsules.

Sig. one capsule to be taken every four hours.

The next morning a small quantity of yellow fluid was thrown out by the uterus and temperature dropped to normal. A tonic was administered. Patient recovered.

Case. 2. My wife, multipara, last confinement May 27, 1921. She was unusually indisposed during her pregnancy. The liver was sluggish and conjunctiva slightly icteroid. The condition of her heart alarmed me greatly. She would have attacks of dyspnœa, tachycardia and palpitation, so that I was greatly concerned about her safety. My colleagues offered their services and one offered a free room in the hospital, but the patient preferred the same old room of her home. Confinement time came on and, to my great delight, I found the condition of her heart improved with the advent of pain, so that at the time of the most intense pain the heart became steady, slower and regular and beat stronger.

The antiseptic precautions were, by force of circumstances, somewhat faulty, delivery was uneventful; the after birth came out twenty minutes after delivery, placenta and membranes complete. The uterus was a little larger than usual in previous deliveries and, fearing hemorrhage, I gave her 2 cc. of ergot hypodermically. The next morning two large pieces of placental tissue were expelled by the uterus. Where did this tissue come from? Were they the result of a second pregnancy which was possibly arrested by absorption of foetus? I do not know. Temperature was 37.2° C. The third morning a tablespoonful of castor oil was given, but temperature went up to 37.5° C, and 38° C. I could not detect anything abnormal, and thought that the temperature might be due to absorption from gastrointestinal tract; hence, tablespoonful doses of castor oil were given every morning. But temperature went up to 38.2° C. Thereupon I insisted on milk diet, and the first glass of milk taken gave her such gastric pains that it was promptly vomited, with much bile. Soon I ordered a second glass of milk and gastric pains returned, milk curdled and vomited together with bile. The administration of milk was repeated seven times and was rejected each time, but I could notice an apparent change for the better in the expression of the face every time after vomiting. The eighth glass stayed on her stomach and half an hour after that temperature dropped to 37.5° C. Next morning temperature became normal and kept normal.

The morbidity in these two cases was, in my opinion, not due to faulty attendance or to infection from improper antiseptic precautions, but was apparently due to septic conditions in the system brought about perhaps by pregnancy, and affecting organs remote from the generative tract.

The first case I *now* think was due to intestinal intoxication and malarial poisoning and the second case was probably due to condition of the liver and the slight icterus. So it behooves us to take into consideration the whole system of the lying-in woman while treating puerperal conditions and not to concentrate our minds only upon microbic infections in the generative tract at time of delivery.

George E. Nour, M.D.

Beyrouth, Syria.

Acid Fruit in Typhoid

To the Editor:

Twelve years ago I had a patient so low with typhoid fever, all he could say was, "Grape juice, grape juice." I ordered a pint, such as they dispense at soda fountains, and gave him all he wanted. He went to sleep and woke up much improved. Convalesced rapidly. I give buttermilk from start to finish—no sweet milk. I have only cream churned, no water in milk. If the cream is too cold to

churn well, set the churn in a vessel of hot water. If the butter does not gather or collect, I have it strained to get butter out. Have regular hours to give milk, grape juice, orange and lemon juice. If this is published, I hope it will benefit someone.

C. H. MITCHELL, M.D.

Box 2, Lulu, Okla.

Our Pedigreed Stock

By ROLAND C. EVANS, A.M., M.D.,
Sheffield, Alabama

RATHER a peculiar title for a paper to be published in a medical journal, but nevertheless fitting and appropriate.

Just a few days ago, while reading some reports from the United States Department of Agriculture, the thought struck me rather forcibly that not only our government, but, I am sorry to say, we seem to be devoting more time and attention to the breeding of various animals, and to the propagation of various fruits and vegetables than we are to the breeding and raising of our own children.

The race horse is pampered and cared for with a great deal more attention than the great majority of children. The brood sow is shown more consideration than the mothers of some of the next generation, who will be called upon to make our laws and administer our business and professional affairs. Even the guinea pigs, rabbits and other small animals used for experimental purposes in our pathological and research laboratories are selected with more care and watched over with more solicitude than is the average child.

Selective breeding, and the culling of undesirable offspring, are considered routine business in the animal and vegetable kingdoms. Registered cattle, hogs, dogs, chickens, and other animals and birds may be found on almost any farm.

Eugenics

But what can be said of the human family? What steps are being taken to insure the future health and improvement of the race?

A start has been made through the study of eugenics, but what a poor and feeble start it has been.

Some of our states require that a man who contemplates marriage shall pass a physical examination and be pronounced free from all communicable disease by a reputable physician before he can procure the coveted license. How many of these examinations really amount to anything, and even if they did, why should such procedure apply to the man only and not also to the woman?

If this law could be made national, and applied equally to both parties concerned, and also be fixed so that the examining physician would have a proper conception of his duty in the matter, it would have a good and restraining effect. But what will be done with the question of prostitution and the children born out of wedlock?

Everything cannot be accomplished at once. We cannot allow the diseased or deformed infant to die. It must not be made to suffer for the sins of one or both parents. But what are we to do?

Some will say it is a subject to be approached through educative means. That is going to take a long time and extend over several generations. And even then it is going to be difficult to reach a great many of the uneducated and the careless.

Marriage Laws

It is almost a daily occurrence for the average medical practitioner to come in contact with some child, or even a grown person, who is carrying in some form or other the stigmata which could have been prevented by proper marriage laws, properly enforced.

As I said before, there would be some that the law would not reach, but this number would gradually decrease.

Preventive medicine is one of the greatest blessings we have, but we must make it more far-reaching and make it not only prevent disease, but make it reach so far that the persons liable to convey these diseases, both of mind and body, to their offspring, shall be prevented from producing and bearing offspring at all.

You ask me how is this to be done? Let me answer frankly and truthfully, I do not know. All great reforms are gradual. "Rome was not built in a day."

Perhaps as we think over such problems and bring them home to ourselves, a way will be revealed, and it will not be long before pedigree will mean something worth while in the human family as it already does in some of the lower forms.

Our Medical Schools Over-manned

To the Editor:

I have read your journal for years. I also read a good many others. I seldom express opinions, but I am so much in sympathy with your article "Our Medical Schools Over-manned" that I must say so. Keep it up! and probably the trustees of some schools will take notice. The intrenched faculties, of course, will not reform themselves, and as there are probably many outsiders trying to get in, the remainder being indifferent, the profession as a whole cannot be expected to help improve the situation, so it's up to you editors and the trustees.

The same tendency exists in many hospitals, too many men on the staff; a small, efficient, responsible staff would be infinitely better.

LEON THURSTON, M.D.,
Suite 604-5-6 Empire Bldg., Pittsburgh, Pa.

Polyneuritis of Infectious Origin

Author's Abstract

Discussion of the pathologenesis of neuritis during infection, with special reference to disorders of the hepatic function. Distinction from radiculitis treatment.

Polyneuritis during infection is not common. It has been assumed that the specific toxin is here its cause. Because polyneuritis occurs from poisoning by minerals, and in chronic alcoholism, a common factor may be responsible in most kinds except that of diphtheria, in which the frequency of local paralysis points to a specificity.

Clinically, hepatic disturbance in polyneuritis is shown by the presence in the urine of altered pigment and indican and urobilin. Post-mortem cloudy swelling of the liver is found.

Whatever the pathogen may be, the central nervous system, too, is affected in the Koraskoff syndrome. In some cases there is increased tension of cerebro-spinal fluid with hyperalbuminosis (and sometimes slight lymphocytosis) of several weeks' duration.

Cases of polyneuritis are briefly reported during diphtheria, tonsillitis, typhoid fever, chronic gonorrhœa and influenza, all of which recovered. The

Syndrome	*Neuritis*	*Radiculitis*
Definition.	Irritation of peripheral nerves.	Irritation of spinal root.
Etiology:		
Toxin.	The usual cause.	Doubtful.
Chemical poisons: Alcohol or metals, especially arsenic or lead.	Frequent.	Doubtful.
Diffuse bacterial poisons aside from local exudation, especially diphtheria and influenza.	Occasional.	Doubtful.
Metabolic poisons: lithemia, arthritism.	Occasional.	Doubtful.
Endocrine imbalance.	Possible.	Doubtful.
Focal infection.	Occasional.	Doubtful.
Tuberculosis.	Scarcely.	Frequent.
Syphilis.	Doubtful.	Commonest cause.
Neoplasm.	Occasional.	To be suspected.
Physical agencies: Cold, trauma, etc.	Occasional.	Especially trauma.
Concomitant of arthritis.	Of the neighborhood.	In the spine.
Pathology:	Usually degenerative from toxicosis, or by strangulation by neurodocitis.*	Often inflammatory; by strangulation, by inflammatory or neoplastic compression.
Onset:	Often abrupt.	Insidious.
Symptoms:		
Pain.	Except in plumbism or pure motor neuritis.	Usual when posterior root is implicated.
Tenderness.	Characteristic, especially of deep tissues.	Absent or minimal.
Conductivity.	Impaired.	Impaired.
Hypesthesia.	Except in early stages, irregularly progressive.	Except in early stages, irregularly progressive.
Sensory dissociation.	Not usual; sometimes pseudotabetic, but never truly of tabetic type.	Occasionally of syringomyelic type in tuberculous radiculitis; of tabetic type in syphilitic radiculitis.
Motor weakness.	Usual.	When anterior root is affected, best marked in tuberculous radiculitis.
Atrophy.	Severe and of long duration except in mild cases.	Less evident except in tuberculous radiculitis.
Deformity.	Contracture and stretching of tendons and ligaments.	Contracture and stretching of tendon and ligaments less marked.
Reflexes.	Impaired except at first.	Impaired.
Trophic changes.	Early and evident.	Scarcely.
Extent.	According to distribution of nerve affected. In polyneuritis more marked peripherally.	In the segmental distribution of the roots affected.
Diagnosis:	Increased deep tenderness with or without hypæsthesia. Syndrome conforms to distribution of peripheral nerves.	Hypæsthesia both cutaneous and deep. Syndrome conforms to distribution of roots.
Differential Diagnosis:	From trauma, osteitis, arthritis, myositis, meningitis, poliomyelitis, encephalitis, myelitis.	From the same.
Prognosis:	Highly favorable upon removal of cause.	Unfavorable in proportion to destruction of sensory fibres favorable as regards motor fibres except when dense cicatrices have occurred.
Treatment:	Elimination of the pathogen; metabolic regulations; physical agencies to stimulate local nutrition.	Removal of the pathogen; rest of the regions affected.

* A term to denote inflammation of the fibrous sheath or bony canal through which a peripheral nerve passes; e. g., the fascia lata for the n. femorocutaneous or the aqueduct of Fallopius for the n. facialis.

Experimentally, pyridin causes swelling of nerve tissue by hydration. It is a product of faulty hepatic metabolism. Some of the products of cholin, a derivative of lecthin, are highly toxic in nerve tissue. One of these in particular, neurin, can be experimentally produced in eggs or brains in an included intestine.

differential diagnosis is tabulated against radiculitis because of the omission of the latter syndrome in American text-books.

The author's treatment emphasizes the metabolic factor and includes a model dietary and absence of narcotics.—Tom A. Williams, M.B.C.M., in *Medical Record*, December 31, 1921.

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practitioner must be recognized. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

To Much Complexity

Making Ducks and Drakes of our Civilization, Business and Medical Practice

LIFE IS BECOMING one patented complexity after another, and it "gets" us at every turn. One can't smoke a cigar "in good form" now without a lot of complexity. Out of a fancy case or humidor one takes his favorite brand, puts the case back or closes the humidor, opens his coat to fish for his fancy cutter on his watch chain, finds it and nips off the end of his "smoke," buttons up his coat again after hunting for the amber holder in his vest pocket, strips off a fancy and useless band, breaking the wrapper in doing so, adjusts the cigar in holder and has trouble to make it fit, takes it out and works the end around in his mouth a bit, puts it back in the holder, forgets where his patented lighter is and opens his coat again to find it, finally lights up, closes the lighter and restores to his pocket, buttons up the coat—and then agrees with Walt Mason, who mourns that modern cigars are made of herbs and grass. Result: ten minutes' fussing with twenty dollars' worth of contraptions and a bum smoke at the end.

Yes, this illustration is trivial, and all of our trivialities have become standardized and dolled up. One can't change his shirt without prying a lot of dinguses out of the soiled one and then breaking his finger nails quarrying them into the freshly laundered one and getting his fool collar and tie adjusted. All day it's the same thing, and the next day some more contraptions to buy to keep up with "what gentlemen are supposed to do."

Harking Back a Bit

In July, 1914, we were standing before a cathedral chatting with a friend, a scholarly and thoughtful priest. In the course of conversation he remarked about the wonderful progress of the world and predicted a long period of peace and prosperity, basing it on the "strenuous life" theories of Theodore Roosevelt keeping people busy and out of mischief. "Yes," we replied, "that is all right in theory and for super-men, but the average human body and brain has not changed essentially since Adam bought a suit of clothes; and, take it from a doctor, the world is due for one grand crash most any day and for the simple reason that human flesh and brain can't stand the pressure of modern life." And now, long after the war, which failed utterly in teaching humanity the real causes of the catastrophe and that a continuance of these same causes will make another crash inevitable, we want to "tell the world" that, unless we so adjust life and business to the natural limitations of normal flesh and brain, the next crash will come within a few years and will disrupt our present economic and social conditions. The trouble with economics today is this: it has become pigenomics, while sociology has become soak-'em-ology.

Sizing Up Our Business Friends

We have been trying to find a business friend who will admit to making money and having his business on a settled and stable basis, and such men are hard to find. One closed out because he can make more renting his building than he can by conducting a business in it. Another sold out his stock of luxury stuff because he got prices for it that, he predicts, is greater than the retail sales value will be a year from now, and the syndicate buying it will scatter it and unload at present prices within a month. Four stated that overhead is so great that they fear being forced to the wall. A banker fears that the clamor of France and England will cause Congress to write off that war debt they owe us on a political dicker, making government and industrial bonds shrink so as to unload the whole obligation on the people, with disaster to them and to the banking business. He is unloading his paper while the unloading is good. Perhaps he is merely frightened. Another wants to sell out because his taxes are high, and he says bitter things about the politicians. Two complain that foreigners have

opened up near to them, jazzed up their stores with cheap glitter and equally cheap goods, and they can't compete with these foreigners. Three over-extended business and facilities during flush times and now are in difficulties. Several claim to be merely breaking even. Some little stores pay seventy-five dollars or so a month rental, and they carry stocks in these expensive rooms that would not inventory at one thousand dollars. One says he can't compete with the advertisers; he knows, for he says he "threw away sixty dollars in advertising." And so it goes.

Now most of these business people are in trouble because they have not learned there is a buyers' strike against the war-time flush in prices, unnecessary merchandise, fancy fixtures with poor goods displayed, and lying advertising. They keep on stocking up with clap-trap and jigamarees, expecting to sell it *now,* not understanding that the jobbers are unloading on them. They borrow money to put in a fancy store front, with shoddy goods on their counters. Many of the small establishments are mostly fixtures to sell goods, with very few goods to sell, and one can't tell them that their establishments are utterly unnecessary in their communities without a reply that is unprintable. Salesmen and efficiency propagandists hammer into the merchants a line of talk about the complex needs of the people, how luxuries are now necessities, what the good times just around the corner will do *for* the merchant who carries fixtures and bric-à-brac, and what they will do *to* the dealer who handles staples on plain shelves. What nonsense! It is perfectly amazing to see the amount of unnecessary bookkeeping and printed forms used in small business establishments and the complex way they have of doing simple things.

Some Who See the Light

Yet there are exceptions. These merchants have neat fixtures in proper amount, advertise regularly but conservatively, keep stocked with what the people need and want, make quick turnovers, keep down unnecessary overhead, mark goods and prices honestly and are doing business intelligently. They are not making much money, and say so, but they will be in business after the flashy stores are closed out, and they will be making good profits soon as business adjusts itself to the changed and much less complex conditions ahead.

The Jazzing of the Medical Profession

The medical profession has gotten into the same fix as did the railroads. There must be palatial union depots and equally sumptuous hospitals. Special trains must be all Pullman, travel at high speed and give a service that costs so much the freight traffic must be loaded up to carry passenger losses; and the specialists and high-speed technicians in medicine must get the cream of the traffic at the expense of the locals who carry the real burden of meeting disease in small town and country. The government must take over the railroads, and when the bureaucrats got control they made a pretty mess of it; and now the cry is to take over the medical profession and make political ducks and drakes of a self-sustaining service that wants to run its own affairs. Our books are jazzed; our journals are in the way of being jazzed; we must run a business with a lot of fixtures that are for show, "front" that is a bluff, carry a tremendous overhead with a one-man business or quit in favor of the group clinics; we must be socialized and allow our hospitals and dispensaries to be so over-run by women social workers with feminism gone so rampant that the physicians have no room to turn around between the girls pounding typewriters; we must play second fiddle to the foundations who fill up our working quarters with fixtures and a lot of complexities that play jazz; we must be regulated and surveyed by officialism with new toys, the wheels of which we must make go 'round by our own hard work; our medical schools must make everything except general practitioners; when we open a boil we must go through as many unnecessary maneuvers as the chap who lighted a cigar in the first paragraph of this article, and when we remove soiled bandages and put on clean ones it is as fancy a job as changing stylish shirts as outlined in the second paragraph. Worst of all, we must by our own hard work, technical ability, diagnostic discrimination, horse sense and service-giving unselfishness, sit on the lid to keep it from being blown off by lay hot air, or the whole works wrecked by socialistic monkey wrenches being thrown into the machinery going at jazz speed to amuse the horde of fools who think doctors don't know how to practice without a brass band playing a speedy dance tune.

The Patients' Strike

Even as there is a buyers' strike in retail merchandising, so there is a patients' strike impending unless we change some of the complexity-making tendencies in medicine. If modern discovery and research were placed on a constructive basis by the war or the post-war period, the world could afford being jazzed a little; but these scientific and technical advances were used simply to place wholesale murder on an efficiency basis. If the wonderful advances in modern medicine were in the way of being actually applied to the advantage of the whole people, we could indulge needless complexity and afford to be jazzed a bit; but these desirable results are not in evidence.

We are not alarmists, pessimists or sore-heads; nor are we blind. Far be it from us to favor returning to rampant individualism or narrow empiricism in medicine. Happily the day for that sort of thing has passed. But we confess that we are a bit sore over the fact that, soon as medicine was in the way of being an exact science and a workable art that the

Constipation in Young Girls and Women---

especially those who spend much time indoors engaged in sedentary pursuits—is almost invariably attended by a retention of waste and toxic substances. Sooner or later these make their way from the bowel into the general system and give rise to a host of autotoxic ills.

Correction of this condition is imperative, and the safest, simplest and most effective remedy for the purpose is

INTEROL

Directions:

To relieve the constipation of young girls and women, give two to four teaspoonfuls of INTEROL, morning and night, increasing or decreasing the quantity as conditions require. As the bowels yield to the action of INTEROL, gradually cut down the dose to the least amount that—taken at bedtime—will assure a daily evacuation.

a pure mineral oil of the proper density and viscosity to assure satisfactory lubrication of the intestinal canal, and thus relieve and correct bowel inactivity without the usual disagreeable effects of cathartics as commonly employed.

Besides lubricating the canal, INTEROL renders the feces soft and plastic, thereby promoting their easy passage and evacuation with gratifying freedom from discomfort and distress.

It would indeed be difficult to suggest any more serviceable and agreeable medium for the correction of constipation, with its attending autotoxemic conditions, than INTEROL.

Sample and Interol Brochure on request

Allied Drug and Chemical Corporation
2413 Third Ave., New York City
Manufacturers of
ORASEPTINE—Internal and External Antiseptic, Wash, Spray and Douche.
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To Regulate Cardiac Rhythm

Disturbances of cardiac action, manifested by Tachycardia and met with in Exophthalmic Goitre, Tobacco Heart and in Cardiac Neurosis respond readily to the action of

ANASARCIN TABLETS

because of their inhibitory action upon the cardiac nervous system, resulting in the slowing and regulation of the heart's action. In addition Anasarcin Tablets contain diuretic agents which act definitely and reliably upon the kidneys to increase the output of both urinary solids and fluids.

Also indicated in dropsy, post-scarlatinal nephritis, albuminuria of pregnancy, chronic Bright's disease, and in cardiac valvular lesions resulting in loss of compensation, circulatory stasis and effusion of fluid into the tissues.

Sample and literature to physicians on request.

THE ANASARCIN CHEMICAL CO. **Winchester, Tenn.**

whole people would support and the large interests of the world find necessary to a smooth running of civilization, the jazz artists in business and politics must seize on the opportunity to advance selfish interest by endeavoring to control medicine and sanitation, caring little for the interests of the profession that has made all of this possible and caring even less for the real interests of the people who ought to profit by it all.

Nor are we blind to the fact that there are selfish interests in the medical profession itself, whose excesses, quackery, self-seeking and narrow-mindedness are responsible, in part, for the present conditions handicapping medicine and sanitation. Many mistaken sociologists who want to transform medical practice are entirely sincere, seeing only the dark side of practice under the old plan; and the profession will make a mistake unless we let in the light ourselves, showing that while there are dark corners full of putrefaction in the cellar of the medical structure, the great superstructure is clean, scientifically planned, useful, and promising to become a great temple of healing. Gentlemen, let us make it such, cleaning out the dark cellar; but let us also beware that, in furnishing the temple of healing, we do not admit a lot of junk, bric-à-brac, complex playthings and useless fixtures.—T. S. B.

Medical Fellowships

The National Research Council announces the establishment of Fellowships in Medicine created for the purpose of increasing the supply of thoroughly qualified teachers in medicine in both clinical and laboratory subjects and in both curative and preventive aspects. The fellowships are supported by appropriations of the Rockefeller Foundation and the General Education Board amounting in total to one hundred thousand dollars ($100,000) a year for a period of five years. Those receiving awards will be known as Fellows of Medicine of the National Research Council.

To qualify for appointment as a fellow, a candidate must have the degree of Doctor of Medicine or Doctor of Philosophy from an approved university, or preparation equivalent to that represented by one of these degrees. Only citizens of the United States and Canada will ordinarily be appointed, although the fellowship board is authorized to set aside this provision in exceptional cases. The fellowships will be open to both sexes.

Since the principal purpose of establishing these fellowships is to increase the number of competent teachers in the field of medicine, each incumbent will be required to gain experience in teaching. As creative work is regarded as essential to the best teaching, emphasis will also be placed upon research.

Fellows will be at liberty to choose the institutions or universities in which they will work, as well as the men under whose direction they will carry on their researches, subject to the approval of the fellowship board.

Appointments are to be made for a period of twelve months, beginning at any time in the year, with an allowance of six weeks for vacation. The time may be extended, however, if in the judgment of the board the work which the fellow has done justifies it. The stipends are not definitely fixed in amount, but they are intended to enable the individual to live comfortably while carrying on his special work as a fellow.

Board to Administer the Medical Fellowships

The National Research Council has appointed a special board of eminent medical men to administer the National Fellowships in Medicine which the Research Council is able to offer through special gifts to it by the Rockefeller Foundation and General Education Board amounting to $100,000 a year for five years.

The members of the board are: Victor C. Vaughan, formerly Dean, Medical School, University of Michigan, now Chairman, Division of Medical Sciences, National Research Council, ex-officio chairman; David L. Edsall, Professor of Medicine and Dean of the Medical School, Harvard University; Joseph Erlanger, Professor of Physiology, School of Medicine, Washington University, St. Louis; G. Carl Huber, Professor of Anatomy and Director of Anatomic Laboratories, University of Michigan; E. O. Jordan, Professor of Bacteriology, University of Chicago; Dean Lewis, Professor of Surgery, Rush Medical School, Chicago; W. G. McCallum, Professor of Pathology and Bacteriology, Johns Hopkins University; Lafayette Mendel, Professor of Physiological Chemistry, Yale University; and W. W. Palmer, Professor of Medicine, Columbia University, School of Medicine.

The fellowships are open only to students who have already obtained the degree of M.D. or Ph.D., or have equivalent qualifications. Fellows will be appointed for one year with the privilege of applying for reappointment. Applications or requests for special information should be made to the Division of Medical Sciences, National Research Council, 1701 Massachusetts Avenue, Washington, D. C.

Hookworm Remedy Found in Carbon Tetrachloride

Following the discovery by the United States Department of Agriculture that the chemical, carbon tetrachloride, is effective against hookworms in animals, numerous trials in various parts of the world have given strong indication that it is the long-sought remedy for this parasite in human beings. This important advance adds another discovery to the list of those that Department scientists have contributed to human medicine, one of the most important of which is the fact that certain diseases may be transmitted from one animal to another by such external parasites as ticks and insects. If it comes up to expectations, and all tests made so far have been highly encouraging, this drug will be a boon to millions of people in many parts of the world.

The Department has demonstrated beyond doubt that this chemical is a remedy for hookworm and related bloodsucking worms in animals, and its use for this purpose was first called to the attention of the medical profession in the Journal of the American Medical Association for November 19, 1921, by Dr. Maurice C. Hall, who made the investigations.

According to a recent article in a London medical journal, natives in the Fiji Islands have been given this treatment for hookworm with satisfactory results. Ninety-eight per cent. of the parasites were removed with one dose of the carbon tetrachloride and no bad effects were noticed. The absence of harmful effects on the patients, in the tests so far, is very encouraging, as the danger attendant on the employment of the drugs most used at present constitutes a serious handicap to the work of hookworm eradication. The new treatment is, also, extremely cheap, the chemical being one that is commonly used for cleaning clothing.

At the present time the Department's discovery is being tried out as a drug for removing hookworms from

(*continued one leaf over.*)

Doctor: Did you ever stop to realize the significance of this fact about Grape-Nuts?

Probably no other food in the world is so thoroughly baked.

Cereal food that can be swallowed as a pasty bolus is not in a condition suitable for the action of the digestive juices.

Long exposure to carefully regulated heat not only splits the starch granules and brings about a proper physical condition for digestion, but partially dextrinizes the carbohydrates, giving added flavor to the finished product.

Grape-Nuts—the correctly digested cereal food—made from whole wheat flour and malted barley, is subjected to approximately 20 hours' baking under the most careful regulation of temperature.

Probably no other food in the world is so adequately prepared for "simplified" digestion. Grape-Nuts is so prepared as to insure natural and thorough mastication. It is never swallowed *whole*—as are so many "pappy" cereal foods.

Grape-Nuts contains calcium, potassium, magnesium, iron, phosphorus, and other mineral elements that go to build sound tooth, bone and nerve structure.

For these reasons Grape-Nuts is indicated in digestive and deficiency disorders, and wherever re-mineralization of the tissues is desired.

Served with cream or milk, Grape-Nuts is a *complete* food and delicious to the taste.

Samples of Grape-Nuts, with full information, for personal or clinical trial will be sent on request to any physician who has not received them.

Postum Cereal Company, Inc.
Battle Creek, Michigan, U. S. A.

people in the Southern States, on the Pacific coast, in India, Ceylon, Dutch Guiana, the Fiji Islands and Brazil.

Cancer Work Budget for 1922

While the budget for 1921 called for $15,000, the Society actually raised and spent approximately $28,000, the increase being largely due to the demands consequent upon the National Cancer Week. The increased demand for information and the desirability of assisting the field organization by creating a field department so impressed the representatives of the Society that a budget of $60,000 for the year 1922 was voted.

The Lasker Memorial

One of the most encouraging financial matters reported upon at the annual meeting and one which led the directors to believe that the Society was becoming more widely known and its value more fully recognized, was the gift of $50,000 by the family of Mrs. M. Lasker, of New York City, to the memory of her son, Harry M. Lasker, who died of cancer in March, 1921. The income from this fund, which is the first endowment the Society has received, will be applied to the production and distribution of educational material.

A great deal of information can be secured from palpation of the prostate, but nothing worth while unless one is thoroughly well informed as to the size, contour and density of the normal gland. Try a few normal ones.

You need not hesitate to tell those of your patients contemplating prostatectomy that the operation does not always produce impotence. To the contrary, the sexual function is unchanged or even improved in the majority of cases.

Book Reviews

The Glands Regulating Personality

By Louis Berman, M.D., of Columbia University, published by the MacMillan Company, New York. Price, $3.50.

The views concerning the physiology of organs and tissues as well as of the entire organism could not be considered rigorously accurate and thoroughly scientific without a consideration of the relationship of the ductless glands. It has been shown repeatedly that the influence of the internal secretions of these glands is of no negligible importance.

The present work of Dr. Berman throws a new light on the problem. He attempts to go one step further than previous investigators. Not only mood, disposition and attitude are dependent on the internal secretions, but the character, feelings and behavior, otherwise speaking, the entire human personality is dependent on the character of the glandular functions.

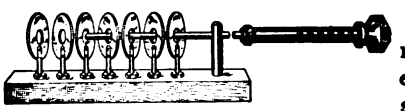
After a detailed consideration of each individual gland the author discusses their inter-relationship, their influence on the psychic activities, on the entire personality, on the formation of types of personality, finally, on human evolution.

The book is an excellent contribution to the subject and the author acquitted himself in a creditable manner in his arduous task. The work is scientific and deserves recognition.—ALFRED GORDON, M.D.

(Book Reviews continued one leaf over.)

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What is the factor which enables this apparatus to be operated for hours at a time without interruption in service preventing a break-down at a critical moment?



The improved Spark Gap illustrated is responsible for the great satisfaction experienced by users of the apparatus. This consists of a series of discs of a highly refractory metal mounted upon insulating material of great heat-resisting qualities with a sliding rod running through the central apertures regulating the length of spark.



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appeals to the tastes of patients because it is so delicious



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We are anxious that you should know the excellence of Kellogg's Bran from a personal as well as a professional viewpoint. We ask that you eat it for a couple of weeks as a cereal or on your favorite cereal; or have it made up into any one of countless appetizing bakery batches. All grocers sell Kellogg's Bran.

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Moisture	2.50
MINERAL SALTS	**8.41**
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Crude Fiber	8.9
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Kellogg's

Look for this signature W. K. Kellogg

the original BRAN - *cooked and krumbled*

The Blood Supply to the Heart in Its Anatomical and Clinical Aspects

By Louis Gross, M.D., C.M., Douglas Fellow in Pathology, McGill University, and Research Associate, Royal Victoria Hospital, Montreal; with an introduction by Prof. Horst Oertel, McGill University. Cloth, large pages, 171 in number, very elaborately illustrated with plates. Paul B. Hoeber, New York City, publisher. Price, $5.00.

This consistent monograph is based on elaborate and painstaking research covering anatomy, the supply of blood, even to the valvular structures, and full consideration of the age-period changes in the blood supply to the heart and their pathogenetic relations. Conclusions are reached that should prove of real clinical significance, though the work is not one devoting especial attention to clinical cardiology. The plates are superb pieces of work, as is also their reproduction for the printed page. This original piece of research is a credit to the author and should make a strong appeal to men especially interested in the subject.

Atlas for Electro-Diagnosis and Therapeutics

By F. Miramond de Laroquette, M.D., Chief of the Service in Electro-radiology, North Africa at Algiers, French Army Division. Translated from the French by Mary Gregson Cheetham. With a foreword by Robert Knox, M.D. Cloth, 180 pages, fully illustrated. Published by Paul B. Hoeber, 67-69 East Fifty-ninth Street, New York. Price, $4.50.

European writers on electro-therapeutics are characterized in their work by accuracy and scientific completeness. This admirable atlas is an illustration of this fact, for the author has presented the most valuable text on this subject that has come to our attention. The English and American readers are under obligation to Miss Cheetham for her admirable translation, who unfortunately died before the work saw print. The work is of great value to the practitioner who aims to do creditable work in this line.

Diseases of the Skin

By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine. Fourth edition revised and enlarged. Cloth, 1132 pages, 969 illustrations and 11 plates in color. The C. V. Mosby Company, 508 North Grand Avenue, St. Louis, Mo. Price, $9.50.

The first edition of this work was well received. Written by an experienced dermatologist who has opinions and expresses them, the book was refreshing and was not a mere compilation from other treatises. The present fourth edition is in no sense disappointing. The text is complete without being verbose and the whole subject is covered within the compass of one volume, while the illustrations, to the credit of both author and publisher, are admirable, making it unnecessary for the practitioner who purchases this valuable work to refer from the text to an atlas of skin diseases. This book

(Book Reviews continued one leaf over.)

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Bronchitis

especially the bronchitis associated with pulmonary tuberculosis, is benefited by creosote therapy.

CALCREOSE (calcium creosotate) is a mixture containing in loose chemical combination, approximately equal weights of creosote and lime.

CALCREOSE differs from creosote in that it does not have any untoward effect on the stomach; hence patients do not object to its administration.

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Constipation

Protein indigestion or the failure to take care of the casein of cow's milk may result in delayed bowel movements.

When constipation in infancy is due to casein curds it is readily overcome by employing some means of preventing the firm coagulation of the casein.

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acts upon the casein of milk in such a manner that the coagulated casein is presented in a most favorable condition for the action of the digestive fluids; therefore, Mellin's Food is especially indicated in constipation due to faulty protein digestion, and results will at once be apparent if Mellin's Food is used in sufficient amount to thoroughly attenuate the milk casein.

Mellin's Food Company, Boston, Mass.



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FOR LOCAL INFECTION

Speaking of the treatment of local infections, Dr. Wm. Benham Snow in a recent address said—

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"To those who have not thought to employ heat from energetic sources to destroy local infection the effects will be reassuring."

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LIGHT AND HEAT APPLICATOR

is a scientifically designed and well made appliance that reflects a flood of PENETRATING light and heat in PARALLEL rays—no focal spot to burn or blister.

Far superior to ordinary hot applications, because the heat penetrates deep into tissue, is constant, always ready, acts quickly and is combined with beneficial light.

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Neuritis	**Stiff Neck**	**Erysipelas**
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Lumbago	**Coryza**	**Eczema**
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Many physicians have not been satisfied with therapeutic results in their cases of whooping cough; and also it has been difficult to give relief in asthma and bronchitis. In this regard it is interesting to note the results some clinicians have been getting with Diatussin. A Detroit physician says: "Diatussin positively relieves, and comes as near a specific as I would wish in whooping cough."

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For cleansing infected wounds, or dressing fresh cuts or abrasions, there is no antiseptic more serviceable and efficient than peroxide of hydrogen.

But it is necessary to be sure that the peroxide of hydrogen employed is pure, of uniform character, and of well-defined germicidal potency. It is the possession of these properties to an exceptional degree that has made Dioxogen the most widely used peroxide of hydrogen. No other antiseptic is so prompt in its control of suppuration, so gratifying in its promotion of tissue repair, or so satisfactory from every other standpoint.

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Bran Furnishes Needed Mineral Salts

An analysis of bran quickly proves its value to the physician. The natural regulatory value of Kellogg's Bran, cooked and krumbled, in the treatment of constipation has long been recognized by physicians. As you know, it is prescribed even in chronic cases with much success.

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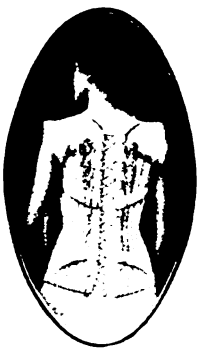
But only lately have physicians become informed on the food value of bran, as shown by chemical analysis. Kellogg's Bran contains a greater quantity of calcium, of iron, of phosphates, than many preparations that feature those elements! Bran gives more than 8 per cent. mineral salts—and, as you know, iron and salts from foods are more completely assimilated than iron and salts derived through chemical processes. Bran will give your patient, as well as regulatory action, brain and nerve cell and energy producing food.

A full-size package of Kellogg's Bran, cooked and krumbled, will be sent to AMERICAN PHYSICIAN readers on request. Address: Kellogg Toasted Corn Flake Company, Battle Creek, Mich.

(Helpful Points continued one leaf over.)

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Permits Absolute Freedom of Action

IT is because the Philo Burt Spinal Appliance is built upon sound, correct and advanced scientific, physiological principles that it is such a great success in the hands of conscientious physicians. Here is a strong proof from a doctor who, despite his knowledge of the many remarkable benefits obtained by use of our appliance, was astonished at the results attained in a fitting he made himself.

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Habitual Constipation

as the digestive secretions are carried off and a period of constipation follows until the secretions again accumulate and the natural process of digestion and assimilation is resumed.

A mild tonic laxative gives the best result and you can obtain this with **Cascara Comp. Tablets (Killgore's)**, as they stimulate the secretions, give an easy natural movement without griping and do not become ineffective by continued use.
Dose: One or two tablets at night.

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CHARLES KILLGORE

Manufacturing Chemist **Established 1874**

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Nature has provided a tasteful, healthful laxative that should find proper place in every physician's Materia Medica. Made into prune juice, Sunsweet Prunes offer a fine, fruity laxative-drink, that may be dispensed to young and old alike.

Even aside from their traditional laxative value, clinical tests have proved the body-regulating qualities of prunes. For example: prunes are rich in benzoic acid —the *natural* fruit benzoic acid. This benzoic acid is eliminated as hippuric acid—the acid that is normal to the urine and always ought to be there. Where the urine is alkaline, prunes possess actual medicinal value in restoring the normal acidity. This applies to both children and adults—and more especially to the aged who are so prone to alkalinity of the urine.

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Results in many cases have been surprising; there are no secondary ill-effects upon circulation or respiration; Styptysate is therefore a safe remedy. Turn to page 327 and see special introductory offer.

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A new authoritative book on yeast is now offered to AMERICAN PHYSICIAN readers on request. It is written by a physician for physicians, and discusses the manufacture, physiology, chemistry and therapy of yeast with a symposium on vitamins. The growing interest in yeast as a therapeutic agent has made it essential that physicians should have at their disposal some book of reference which will summarize in an authoritative way the present known facts about yeast.

A copy will be sent to you free, address: The Fleischmann Company, Dept. S4, 701 Washington Street, New York.

Write for This Informative Report

In view of the extent to which Virol is used in public health work in Great Britain, the bio-chemical laboratory of the University of Cambridge recently conducted an exhaustive investigation to determine whether the vitamines known to be present in the raw materials from which Virol was manufactured were present in their active state in the manufactured Virol as sold to the public. The report, which fully proves the presence of the vitamines in Virol, will be sent to AMERICAN PHYSICIAN readers on request, address: Geo. C. Cook & Co., Inc., 59 Bank Street, New York.

Effective in Whooping Cough

If you knew the excellent results physicians are getting from the use of Creo-Tussin in whooping cough you would not be without it. Good results are evident the first night. If you are not familiar with this excellent product, just turn to page 381 and send in the coupon for sample and literature.

(*continued one leaf over.*)

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Chlorylen is applied by inhalation. 20 to 30 drops are placed on cotton or the handkerchief and inhaled through the nostrils, until the odor disappears. It is a volatile liquid with a pleasing odor and is obtainable in bottles of 25 grams each.

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A sedative and soporific for use in the treatment of Neurasthenia, Insomnia, Hysteria, Palpitation of the Heart, etc. It is a Valerian and Amylene combination, is easily absorbed and acts promptly. Valamin is marketed in packages containing 25 capsules of 4 grains each. The dose is one or two capsules after meals. In nervous insomnia, two to four capsules should be taken before retiring.

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(High Tension Dr. M. C. Thrush)

is a scientific, safe, reliable combination of proven agents. It produces prompt action and its effects are prolonged. It does not disturb digestion or renal function.

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Potassium nitrate, sodium nitrite, sodium bicarbonate, nitroglycerin and crataegus oxyacantha (tonic for heart muscle and to prevent shock). Special (green colored) sugar coating, to dissolve in intestinal tract, and avoid gastric disturbance.

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200 Pulvoids for $1.00. One time only.
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It is giving excellent results in the treatment of Pain, Goiter, Lumbago, Sciatica, Neuritis, Ulcers, Tumors of the Breast, Prostatic troubles, and in all Gland and Skin troubles.

Over 1400 treatments given in the past 5 years without a single failure to effect a cure. It is a RAY or Light that can be used with absolute safety to both physician and patient.

No expensive equipment is necessary, as it can be attached to any socket or holder that has a cone-shaped reflector, such as an ordinary reading lamp with a flexible arm.

The price is only $10. Descriptive literature on application. Truly, Doctor, in this New Light you have a wonder worker in the curing of diseases.

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A New Mercurial

We have long needed a satisfactory mercurial for hypodermic administration; and of all hypodermic methods, the intravenous is obviously the best. Arsphenamine is thus administered; but arsphenamine without mercury will usually fail to eliminate the spirochete of syphilis.

Mercurosal (Parke, Davis & Co.) is a new mercurial, one that is said to have the blandest possible effect upon the vein when administered intravenously, but a powerful effect upon the spirochete. It is the counterpart of arsphenamine, the two together constituting effective medication in syphilis.

Parke, Davis & Co. have a new piece of literature on Mercurosal—excerpts from recently published clinical papers. Send them a card asking for "Mercurosal as an Antiluetic."

The Result of Research and Clinical Test

Nujol is especially suitable for all forms of intestinal constipation. It is scientifically adapted by both viscosity and specific gravity to the physiology of the human intestines.

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(Helpful Points continued one leaf over.)

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(Trade-Mark)
Hemorrhoidal SUPPOSITORIES

"Hesitate to Operate Until They've Had Their Chance"

To be sure, there will always be Hemorrhoid cases that yield to the knife only.

But their number is not by any means as great as is generally assumed.

At any rate, it is a fact that the verdict "Operation" is pronounced much too readily and lightly in a great proportion of Hemorrhoid cases.

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Use it clear or diluted; but only of course on unbroken skin surfaces—never on mucosa and never internally.

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EVERY DAY doctors are advising a rest, a trip to a sanitarium, a visit to a specialist, an operation—anything to get rid of their old, stubborn cases of

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Maybe you are doing, or are about to do this very thing. You are losing possibilities of dollars and prestige, *to say nothing of the satisfaction of having won a hard fight.*

Too many of these cases are passed up by good doctors, only to fall into the hands of unscrupulous men who offer nothing but promises and frequently give less.

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in many of these cases. If you will try *SUPPOS. PROSTANS* thoroughly in one or two cases you will surely convince yourself and will thereafter *keep the business you've been turning away.*

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If after a fair clinical test you feel that the results do not more than meet all your expectations, we hereby agree to refund your money upon request. This offer places the burden of proof upon us at our own expense.

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Pluto Water



has been successfully employed and endorsed by the Medical Profession as a uric acid solvent and eliminating agent in renal disorders; prompt, safe and efficient and well retained by the most delicate stomach.



Many practitioners direct convalescent patients to the spring for rest and complete treatment.

French Lick Springs Hotel Co.
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Relief in Chronic Cases

Many physicians have found from experience that the Ultima No. 1 Sinustat will relieve pain in sciatica, neuritis, rheumatism, lumbago, neuralgia and like conditions by producing a sedation of the nerves. Also that mild applications to the gastro-intestinal tract stimulate normal functions.

The Ultima No. 1 Sinustat is a general utility appliance, for which the active physician will find many uses. As well as for administering the sinusoidal current, in the above conditions and for exciting spinal reflexes (Abrams) it can be used as a current controller to regulate the voltage of any small lamp for diagnostic purposes, such as cystoscope, urethroscope, etc.

A very favorable opportunity is given AMERICAN PHYSICIAN readers to try this apparatus thirty days without charge. If satisfactory it is to be paid for in monthly payments of $5.00—if you are not satisfied return it at the end of thirty days with no charge whatever. A valuable chart and booklet on "Sinusoidalogy" will be sent to you free. Turn to page 385 and send in the coupon.

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Regularity in bowel movements contributes much toward normal, healthful progress of your small patient. And a knowledge of the number and character of the stools during each twenty-four hours is an important part of the general management of early life and assists much in properly adjusting the diet.

Suggestions for the regulation of infants' stools by slight changes in the make-up of the diet and particularly in relation to constipated movements, are given in the book, "Formulas for Infant Feeding," and in a pamphlet devoted especially to this subject, both of which will be sent to AMERICAN PHYSICIAN readers on request. Address, Mellin's Food Company, Boston, Mass.

(*continued one leaf over.*)

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are invariably aggravated by the irritation that essentially accrues from the repeated impacts of leather heels on hard, unyielding floors and surfaces. Happily it is easy to obviate this continual pounding, with its cumulative depressing effects on the nervous system, by wearing

O'Sullivan's Heels



So pronounced are the resulting benefits, that the use of O'Sullivan's Heels has become with many physicians a fundamental detail in the care of the nervous patient. The relief of jarring not only adds much to the patient's comfort and well-being, but the marked relaxation of nerve-tension that follows often proves an important factor in assuring a prompt and satisfactory recovery. O'Sullivan's Heels are a boon to the neurasthenic patient.

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A rational measure in the treatment of INFLUENZA is to encourage the invariably depleted adrenals by using

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(Harrower)

One, q. i. d; in acute conditions 2, t. i. d. is proved to be rational *because it is effective*. It opposes the asthenia, hypotension and peplessness that is so common.

Have You Made Your Reservation
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The present edition contains most of the old features and many new ones—fifty new chapters; larger page; larger type; better in every way.

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IF YOU ONLY KNEW the excellent results physicians are getting from the use of Creo-Tussin in whooping cough you would not be without it for, as one physician stated, "good results are evident the first night."

Physicians who are unfamiliar with Creo-Tussin are requested to write us for sample and literature. Please use attached coupon.

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A. P. 4-22 _____

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A Doctor Writes—

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February 24, 1922.

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I have put many babies on Nestlé's and in almost all cases have done well--one three months old baby increasing from 5 lbs. to 12-1/2 lbs. in three months.

Yours very cordially,

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Pure Cow's Milk, properly modified, explains the general successful professional use of Nestlé's Milk Food. A liberal supply of samples on request.

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Your patients' confidence in your ability is inspired to a great extent by your own sense of absolute accuracy of knowledge of anatomy.

The Pilz Anatomical Manikin has helped many an ambitious physician toward more accurate diagnosis and therapy and the merited confidence of his patients.

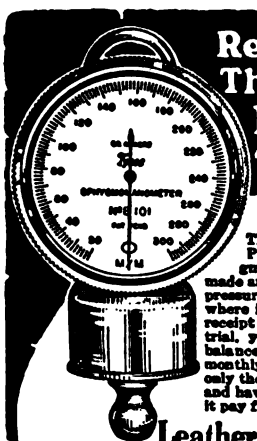
Install in your office the Pilz Anatomical Manikin, life size, reproduced in folding layers, life-like colors, complete in every detail, at $15 for male and sexless, $18 for female—or the Dr. Minder's Manikin, 20 by 8 inches, male, $2.50; female, $3.00—and you will find it a real aid to greater success in practice.

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(Helpful Points continued one leaf over.)



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A specialist of international reputation, after defining Diverticulitis as the formation of small pouches along the walls of the colon due to prolonged constipated conditions, points out that these pouches, becoming filled with fecal matter, quickly cause inflammation which leads to ulcers of the bowel, abscesses or adhesions—even the growth of tumor masses and obstructions. A very serious condition, which, he says, is to be remedied only by careful non-constipating diet and the administration of liquid petrolatum.

NUJOL is the ideal liquid petrolatum for the correction of intestinal disorders. Its purity, quality, and general suitability to conditions of intestinal stasis is attested by leaders in the medical profession.

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A Lubricant; not a Laxative



Normal Colon



Multiple Diverticula of the Colon

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Please send booklets marked:

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The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

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Wanted—Physician, preferably with some literary experience, for editorial and general duties in the office of a manufacturing chemist. State age, education, experience, salary expected. Excellent position for qualified physician. C. F. L., Box 34, Station V, New York, N. Y.

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Bronchitis, especially that associated with pulmonary tuberculosis, is benefited by creosote therapy. And physicians are finding that Calcreose offers creosote in a particularly acceptable and effective form. Calcreose (calcium creosote) is a mixture containing in loose chemical combination, approximately equal weights of creosote and lime. Calcreose does not have any untoward effect on the stomach, as does creosote, and hence is acceptable to the patient and effective.

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The new Comfort-V Supporter is very satisfactory in cases of enteroptosis, gasteroptosis, floating kidney and post-operative conditions. It relieves dragging on the solar plexis. The price is $4.50 and up, and the supporter is washable, durable and economical. Order now or write for literature, address: Huston Bros., Atlas American Building, Chicago. The obstetrician will find that their Obstetrical "Shoe Horn" will eliminate hours of suffering and danger—price, $5.00—further information on request.

(Helpful Points continued one leaf over.)

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For Men **For Women**

Formula of Dr. Iwan Bloch

After seven years' clinical experience these products stand as proven specifics.

INDICATED IN SEXUAL IMPOTENCE AND INSUFFICIENCY OF THE SEXUAL HORMONES

They contain SEXUAL HORMONES, i. e., the hormones of the reproductive glands and of the glands of internal secretion.

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Sexual infantilism and eunuchoidism in the male. Impotence and sexual weakness. Climacterium virile. Neurasthenia, hypochondria.

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AFSAL Acyl-Methylene-Disalicylic Acid unquestionable remedy for RHEUMATISM. Price, 75 cents per oz.

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Unsurpassed in enteroptosis, gasteroptosis, floating kidney and post-operative conditions. Relieves dragging on the solar plexus. Price, $4.50 up. Washable, Durable, Economical.



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Anatomically Correct as Regards Size and Shape
Where the foetal head engages against the pubes instead of emerging directly toward the birth canal this instrument is worth its weight in gold. The head of the foetus may be readily deflected toward the canal. Eliminates hours of suffering and danger to mothers. Price $5.

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FOR
Hepatic Insufficiency, Habitual Constipation and Gall Stones

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With Digestive Ferments and Nux Vomica
A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

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No. 1 SINUSTAT

The Ultima No. 1 SINUSTAT shown will relieve pain in Sciatica, Neuritis, Rheumatism, Lumbago, Neuralgia, etc., by producing a sedation of the nerves.

Mild applications to the gastro-intestinal tract stimulate normal functions.

Try This Thirty Days Free! Just sign the coupon and we will send this on free trial without one cent in advance. If it fails, return it without any obligation.

FREE! A Valuable Chart and Booklet giving full directions will be included.

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pounding, with its cumulative depressing effects on the nervous system, by wearing O'Sullivan's Heels.

The relief of jarring adds much to the patient's comfort and well-being and effects a marked relaxation of nerve-tension.

GIVES GRATIFYING RESULTS

The rein method of treating disease appeals strongly to the progressive, busy clinician confronted with diverse practical bedside conditions and striving earnestly to meet them in a rational and scientific manner and with a fair degree of certainty and rapidity.

Many physicians are finding Sodium Iodide and Guaiacol (Endocreodin) for the pain, cough and dyspnea of bronchitis, broncho-pneumonia and bronchitic asthma. Sodium Iodide liquifies mucus secretion, reduces the viscosity of the blood, increases leucocytosis and stimulates glandular activity. Guaiacol is a mild anesthetic and expectorant. The technic is simple and many physicians are finding the results worth while.

For catalogue giving complete formulæ of intravenous specialties, reprints of interesting articles, and price list, address: Intravenous Products Co., of America, Inc., 121 Madison Avenue, New York.

Nature's Own Method

The best antiseptic for preserving the integrity of any mucous membrane is its own normal secretion. And a particularly good corrective of mucous membrane irritation, inflammation, congestion, hyper-

(Helpful Points continued one leaf over.)

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To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

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DIABETES Strictly Starch-free. Produces Bread, Muffins, Pastry that makes the distressing features of Grow Less and Less

Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85
LISTER BROS. Inc., 405 Lexington Avenue, New York City

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 392

History of Dental Anaesthetics, No. 2

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Antiseptic Local Anaesthetic

with cocaine 1% or with procaine 2%
(Procaine is the word adopted by the U. S. Government for the word Novocain)

IN BOTTLES
1 oz. 2 oz.
Ready for use

IN AMPULES
1½cc; 2½cc (12 in box)
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Sample box of 2½cc Ampules

Fill in and mail this coupon. We'll be glad to send you a sample box of Ampules FREE.

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Please state what anaesthetic you are now using

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INTERNAL REMEDY

Compound of Sodium Benzoate with Alkaloids of Calisaya

A TIME-TESTED, highly therapeutic formula which has proved a veritable wonder worker in many thousands of cases of Tonsillitis. Benzomint has pronounced antiseptic and antipyretic properties. It soothes instantly the intense pain from swollen, inflamed glands, and quickly counteracts both local and systemic infection.

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AN efficacious astringent and antiseptic gargle of great value in the treatment of Tonsillitis.

Pint, $1.00; Five Pints, $4.50; Gallon, $6.00. Either preparation. Send for samples and literature

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Dysmenorrhoea
and other disturbances of the menstrual function call for the true active principle of Parsley:

APIOLINE
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It Secures Results

by acting directly upon the uterine nerve endings and producing ovarian hyperemia, but without disturbing gastric or renal functions.

Avoid impure or unreliable substitutes.
Prescribe original vials of 24 capsules.

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NEW HOME TREATMENT
For all Drug and Alcoholic Addictions—Doctor: treat these cases at home privately yourself. No pain, very little discomfort. Sanitarium maintained for those who desire. Enclose stamp for full information.
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secretion or atony is Alkalol. Because Alkalol is physiologically constituted, not only to feed exhausted or depleted cells with needed salts, but also to restore circulatory and tissue tone, normalize secretory action, Alkalol is soothing and healing. As a nasal douche or spray, as a gargle and mouth wash, Alkalol is an efficient prophylactic agent. In the eye, ear, bladder, urethra, vagina, on the skin, or given internally, Alkalol is prompt to bring about the success of Nature's efforts to prevent or overcome disorder or disturbance.

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New and Effective Violet Ray Tube

After testing out his new Violet Ray Tube for five years in daily use, giving over one thousand four hundred treatments without a failure, Dr. Chewning has been persuaded by his colleagues to make this available for the profession.

Physicians who have seen the new Violet Ray Tube in use are enthusiastic about it—so much so that Dr. Chewning has gradually taken up the task of supplying physicians with it. With many satisfied owners, the Doctor states he has yet to receive any "kick."

See the advertisement on page .. The price is only $10 and can be attached to any socket or holder that has a cone-shaped reflector, such as an ordinary reading lamp with a flexible arm, so no expensive equipment is needed. Address: The New Violet Tube Co., Dr. W. J. Chewning, Fredericksburg, Va.



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Established 18 years.
A quiet, home-like institution. Only refined cases accepted. Over 5000 cases treated. For references address
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Ask the User of ALKALOL

why it produces results superior to those obtainable from the ordinary so-called antiseptic solution and several reasons why will appear.

BECAUSE:

ALKALOL tones up instead of relaxing tissue, due to its correct alkalinity and proper salinity.

ALKALOL does not produce hypersecretion or catarrh of mucous membranes, due to the fact that it is hypotonic.

ALKALOL overcomes congestion and quickly restores mucous membranes to normal tone, due to the fact that it feeds the cells with needed salts.

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ALKALOL is ideal and efficient in the eye, ear, nose, throat, urethra, vagina, rectum, bladder, on the skin or internally.

Send for sample and literature—and become convinced.

The Alkalol Company **Taunton, Mass.**

RHINOL

in All Affections of the Nose and Throat

RHINOL CO., INC.,
1416 Broadway,
New York City.

March 15th, 1922.

Attention Dr. A. H. Werner, Pres.

MY DEAR DOCTOR:

I believe I have an interesting report on the administration of Rhinol in a case of acute sinusitis, and since I myself was the patient, I had the best opportunity of studying its effects in the most direct way.

During a heavy snowstorm on January 17, 1922, I contracted a severe "cold," and as doctors will do, neglected it and attended to my duties for a week more, when an inflammation of both frontal sinuses and both antrums forced me to give up. From my own experience I know now that this is one of the most painful diseases in existence. A friend Rhinologist was consulted, and of course, he did what he could, but I continued to suffer tortures of hell.

About a week later, through Dr. Graf, of New York, I heard of Rhinol, and ordered an outfit.

Well, Doctor, if Rhinol did nothing else but *relieve* a condition like mine, it would be one of the most valuable additions to Materia Medica. But I am certain it *cured* me. Gradually the heavy pus diminished, and I at last ceased to suffer.

About a week after a radiograph taken by Dr. Teperson showed the left antrum still involved. Friend Rhinologist advised operation and rinsing, but I was determined to keep on with Rhinol, since its application had established free drainage and I was improving every day. About two weeks after there was no more pus, and subjectively I felt perfectly well, and at the date of this writing continue to feel well. Another radiograph will be taken soon, and I am positive it will reveal normal conditions.

I now employ Rhinol in my office and carry it with me on my daily visits, using it in every case of Measles, Scarlet Fever, Tonsillitis, Rhinitis—and it has always given immediate relief, shortened the duration of illness, and probably prevented in several cases the usual severe complications.

I am grateful to Dr. Graf for having called my attention to Rhinol and congratulate you for having a remedy which ranks most high among the pharmaceutical preparations at our command.

I cannot help feeling that if the medical profession would show something of the spirit attributed by Caesar to the inhabitants of Gaul—novarum rerum cupidi—it would be better for them, as well as for their patients.

Very sincerely,

Signed, G. THEODOR FISCHER, M.D.,
383 Clinton Street,
Brooklyn, N. Y.

Price Complete, $3.00—Refilled Packages, $2.50

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USOLINE
The ORIGINAL
Russian Mineral Oil

USOLINE was the first mineral oil put on the market in this country. It has never been extensively advertised, and exaggerated claims have never been made for it, therefore physicians have been steadily and increasingly prescribing it for internal use year by year.

We again present to you USOLINE as a highly refined 100% imported Russian Mineral Oil, with properly adjusted gravity and viscosity; containing no sulphur or acid impurities, no bloom or fluorescence and no taste.

The consensus of opinion of eight leading clinicians favored Imported Russian Oil (see A. M. A. Journal, Vol. 64, p. 808).

For clinical test, a 6 oz. bottle of USOLINE will be sent you free. Write for it.

OIL PRODUCTS CO., Inc.
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AND ABDOMINAL SUPPORTER
(Patented)



THE STORM BINDER is adaptable to any case where an abdominal supporter is needed for man, woman or child.
THE STORM BINDER IS FOR GENERAL SUPPORT IN Visceroptosis, Obesity, etc., etc.
THE STORM BINDER IS FOR SPECIAL SUPPORT in hernia, floating kidney, descent of stomach, etc., etc.
THE STORM BINDER IS FOR POST-OPERATIVE SUPPORT of incisions in upper, middle and lower abdomen.
THE STORM BINDER IS FOR MATERNITY CASES, relieving the nausea and discomforts of pregnancy.
Ask for illustrated folder.
Orders filled in Philadelphia only—in 24 hours and sent by parcel post.

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Advertisements must give honest service to our readers and their patients—is the *basic principle* for these standards and for the conduct of THE AMERICAN PHYSICIAN'S advertising pages.

Our attitude in applying these standards is not one of narrow technicality but of *practical service*—

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Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

Fraudulent pharmaceuticals; those making dishonest claims.

Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

Pharmaceuticals and other mixtures containing narcotics or other habit-inducing drugs in quantities sufficient to promote their repetition on prescription (chloral-bearing proprietaries, etc.).

Potent pharmaceuticals which justly merit professional disapproval because of their lay advertising or *manifestly* unethical exploitation.

Financial advertisements that claim returns not compatible with conservative investment. Only *conservative* investments are advertised.

Further - - -

Advertising copy is subject to revision by the editorial staff.

THE AMERICAN PHYSICIAN agrees *heartily* with the *principles* of the Council on Pharmacy and Chemistry of the American Medical Association and we exclude from our advertising pages such pharmaceutical products as they have definitely shown to be unworthy of professional confidence and the manufacturers of which have not removed the cause of objection; but we do not accept such findings as are based on academic data without due recognition of general clinical experience.

Concerning formulæ, THE AMERICAN PHYSICIAN is urging pharmaceutical manufacturers to give full therapeutic data regarding formulæ, stating quantitatively active medicinal content, in order that physicians may intelligently prescribe. We do not accept advertising of secret pharmacueticals.

But We do not Decline - - -

Advertising of original drugs, compounds or preparations initated in current editions of the U. S. Pharmacopœia or National Formulary (except habit-inducing preparations); new products that seem to be honest and valuable, but which have not been reported upon by the Council on Pharmacy and Chemistry, or similar products whose manufacturers have not yet submitted the same to them for approval or rejection. We use our own judgment in these cases, but will always consider proper charges against this class of remedies.

Preparations containing a limited number of drugs in admix-

(Continued one leaf over)

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After almost thirty years of service this drug stands out pre-eminent as an antipyretic, analgesic, antineuralgic and sedative.
Pyramidon is supplied in powder form in 1 oz., ¼ lb. and 1 lb. cartons and in tablets of 5 grains in aluminum tubes of 10, and in bottles of 100 tablets. Prices to physicians are $1.20 per ounce, 40c per tube of 10 tablets, and $3.00 per bottle of 100 tablets.

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Utilizable as a local anesthetic for the relief of pain from wounds, burns, ulcers, excoriations and all exposed nerve-endings. Orthoform is used as a powder in insufflation, as an emulsion, or in tablet form. It is given internally for the relief of pain in gastric ulcer and gastralgia.
Orthoform is dispensed in 1 oz. bottles which sell to the physician at $4.50 and in 5 gram vials at 90c per vial.

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Are employed for the alleviation of pain and the mollification of irritation following all operative procedures on the throat. They dissolve slowly, thus producing a prolonged anesthetic effect. They are dispensed in bottles of 100 tablets of one-quarter grain each or of one grain each at $1.00 and $1.75 per bottle, respectively.

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CAMPHO-PHENIQUE LIQUID.
A powerful Antiseptic and Germicide used successfully by surgeons in minor and major operations. Exerts a healing influence and induces rapid granulation.

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Posses all the Antiseptics and Germicidal prorerties of the Liquid. It is a dry treatment for sores, woands, cuts and abrasions of the skin.

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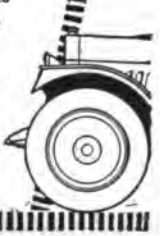
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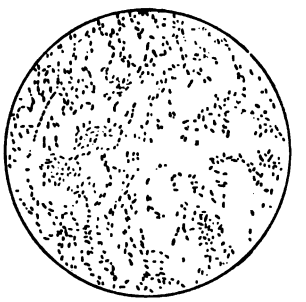
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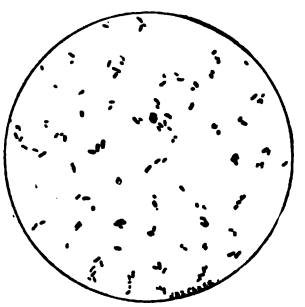
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DYSMENORRHŒA. 95

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By H. S. Lott, M.D. 419
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Motility, secretion, digestion, pain, ulceration, spasm and obstruction in the alimentary canal are conditions encountered by every physician in his daily vocation. We thoroughly approve of this paper of Dr. Boodel, as the brief, but clear, descriptions on the mentioned points will be of undoubted value to every reader.

Proper Interpretation of Symptoms.
By Alfred Brown, M.D. 424
Symptoms are extrinsic expressions of intrinsic conditions and are precious when properly understood. However, when they run wild like a mob in alarm and disorder, their interpretation becomes difficult and their significance problematical. It is then that the physician steps in and distinguishes between the informative and valuable and the rambling and confusing. These points are skillfully discussed and vividly illustrated in Dr. Brown's helpful paper.

Familial Epistaxis.
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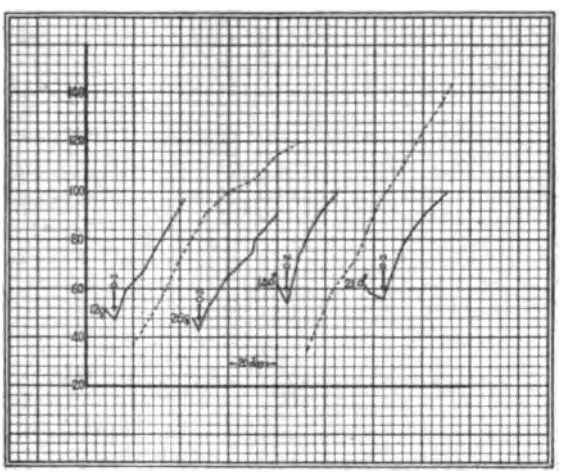
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The American Physician

Vol. 27 June, 1922 No. 6

Take Care of the Spine

Especially in These Days of Traumatic So-called "Adjustments"

THE PHYSICIAN owes the same duty to the spines of his patients as he does to their other structures. There is no occasion for the spinal specialist, and it is incumbent upon both physician and surgeon, more especially the orthopedist, to diagnose lesions of the spinal structures—the osseous, tendinous, muscular, vascular and nervous tissues—and to give early and scientific treatment. Especially is it the duty of all of us to know spinal prophylaxis and, when lesions of any kind occur, to guard the patient against trauma of any kind, more especially the commercially-prompted assaults against the integrity of these structures parading under the specious name of "adjustments."

Deviations in the Spine of the Child

Faulty attitudes in children lead to round shoulders and functional types of scoliosis, which if neglected lead to structural changes which are incurable, as was well set forth by Jacob Grossman in *The Medical Record,* January 21, 1922. Scoliosis, kyphosis and lordosis are not merely affections of the osseous structures, for they depend quite as much on a lack of harmonious co-operation of the several muscles which maintain the spine in normal position. Kyphosis may involve the whole spine, it may be due to rickets. The common type known as round shoulders shows most deviation in the center of the dorsal portion of the spine, but even the pelvic bones may be "off center" and the structures of the shoulder and chest be involved. In fact kyphosis causes a disturbance of the normal anatomical relationships from the feet upwards, as all surgeons know. The causes have more to do with the muscles than with the osseous structures, as well as bad posture, etc. The treatment has little to do with the osseous structures, *per se,* except that in neglected or severe cases braces or special corsets may become necessary.

Lordosis is usually of the secondary type, especially resulting from hip disease and spondylitis. Scoliosis is predisposed to by general debility, rickets, anemia, overfatigue and faulty postures. It is weakness of the muscles, not the bones, that is the factor here. The deformity extends to the thorax, sometimes leading to compression of the lung on one side and displacement of the heart and other organs. The treatment of these conditions may cover a wide range in case-management, hygiene, and sometimes medication. Never does it include forcible manipulation of the spine, which does nothing but harm.

After all, most deviations of the spine originate in infancy or childhood, except those cases where necrosis or accidental trauma occur or where tubercular lesions develop. How foolish it is, then, to charge to alleged subluxations or impinged nerves these deviations so often neglected in childhood and incapable of cure in later life! These conditions have long been understood. Why are they so neglected?

Spinal Dislocations and Subluxations

All anatomists understand the vertebral articulations and how powerfully the vertebral bodies are reinforced by thick broad anterior and posterior common ligaments, how laminæ and processes are anchored by the yellow ligaments and the inter- and supra-spinous ligaments; so that it is impossible to dislocate the spine of an animal of any size by manual manipulation. It cannot be done except by violence or leverage. Nor is it possible to reduce a spinal dislocation by mere unaided manual manipulation unless the parts have been so fractured or torn that normal anchorage is destroyed.

And all experienced surgeons know that pure dislocations of the spine can hardly occur except in the cervical region. Even in this latter region dislocations are almost invariably accompanied with fracture, and it may almost be said that they never occur without fracture in other portions of the spine proper. Subluxations of the spine are very rare; they are usually the result of actual disease of the bone and come on gradually with the advancing pathology.

So rarely are these fracture-dislocation lesions of

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 466

the spine unaccompanied with paralysis that Hartshorn reported such a case occurring in the cervical region as a rarity (*Boston Medical and Surgical Journal,* February 2, 1922).

When these fracture-dislocation lesions occur from direct or indirect violence there is pain, marked shock, and paralysis. If the lesion is above the fourth cervical the patient may die at once from respiratory paralysis, and when lower down the prognosis is always grave, depending on the amount of damage to the cord.

It has fallen to the writer's lot to subject to X-ray photography a large number of patients coming from the "adjustment" artists with diagnoses of dislocations or subluxations of the spine, and in not a single case was there revealed any spinal deviation whatever other than those produced by scoliosis, kyphosis or lordosis. In one case an impacted fracture was shown which had never been diagnosed. The man was a cripple who, years before when intoxicated, had fallen off a bridge.

Impinged Nerves

Thirty-one pairs of nerves originating in the spinal cord leave it through the intervertebral foraminæ, and each has an anterior motor root and a posterior sensory root, and the latter, provided by a spinal ganglion, receives a branch from the sympathetic; and it, in turn, is divided into two branches. The posterior branches are distributed to the muscles and skin of the cervico-dorsal region, while the more important anterior branches are associated with the homologues of the pairs situated above and below and form important plexuses (cervical, brachial, lumbar and sacral). Look up any text on the diagnosis of affections of the spinal cord and the spinal nerves, and you will get the distribution of these nerves and the motor and sensory affections produced by lesions therein, and the sensory affections form four great systems (proprioceptors, protopathic exteroceptors, epicritic exteroceptors and enteroceptors), only the latter involving the internal organs. Go into this matter minutely in standard text-books and the Handy Andy modern plates and diagrams of the spine artists will appear as scientific as the erstwhile claims of the phrenologists compared with the modern development of localization of brain function.

Wilson Gill Bailey (*The Medical Times,* February, 1922) pointedly called attention to certain facts which may be summarized as follows: The spinal cord is about half an inch in diameter and the sixty-two nerves coming from it, if all gathered together and compressed into one, could not be any larger in diameter, and they are very small indeed compared with the diameters of the foraminæ through which they have their exits. Yet the Handy Andy charts show these nerves so large by comparison with the facts, and in comparison with the cord, that it would require a cord fifteen inches wide, in a man 125 feet tall, to supply such large nerves as the diagrams show. Of course, this is simply playing up the idea, and Dr. Bailey is justified in making his strictures. Furthermore, Dr. Bailey says, these nerves are on the *inside* of the ribs and cannot be reached by manipulation, and he pokes fun at the theory that nerves carry "nerve energy" or nutrition to internal organs.

The Claims of the Cultists

Practically all physicians are familiar with the claims of the cults and their followers, but some physicians are not sufficiently familiar with the scientific and clinical considerations merely touched upon in this editorial. It is not the present purpose to discuss the matter elaborately; it is merely aimed to indicate to the reader the lines of reading he may follow in order to have, not only a scientific reply to cult claims, but, as well, so to perfect himself in the diagnosis, prevention and treatment of spinal lesions as to meet the competition of ignorant men with *real service* to the people at large and his patients in particular.

After all, it must be conceded that certain patients actually are benefited by the manipulations of the various types of mechano-therapists. Ultimately these men will drop some of their foolish theories and their all-inclusiveness, taking their proper place as rubbers and manipulators in the way the writers on massage and Swedish movements elaborated many years ago, but which have been neglected by the medical profession.

The serious matter, from the standpoint of the public, is that these measures have been neglected, and that is partly the fault of the medical profession. Another important consideration is this: the people do not understand spinal deviations and their causes and hence run after the cultists who are playing up the spine as their stock in trade. Herein is an opportunity for the medical profession to capitalize the current propaganda by enlightening the people as to the real facts and the far-reaching resources of medicine and surgery to prevent and cure many of these really distressing cases. Doctor, it will pay you to study the subject in the rational and clinical phases modern medical literature makes available.—T. S. B.

D. J. Davis says the influenza bacillus of Pfeiffer is one of our common throat bacteria found in a high percentage of persons at any time and often in large numbers. It is found more frequently and more numerous in respiratory infections. No convincing evidence exists that it is the primary cause of pandemics of influenza or of any other respiratory epidemics. Biologically it is unique in its relation to blood and requires not only the ordinary constituents of media but also the presence of a vitamine or vitamine-like body in conjunction with the blood pigment for its existence.

WHAT ABOUT THE PROLONGED USE OF

Arsenic in Large Doses

and the

Modern Treatment of Syphilis

A TENDENCY to continue the use of arsphenamin and other arsenicals over long periods is manifesting itself. Not necessarily in condemnation of this practice, we venture to direct attention to a little ancient history in medicine that may serve to throw a little light on some reported clinical manifestations of recent times.

Long ago in Lower Austria, especially in Styria and the Hungarian-border hill country, the custom of arsenic eating became common. In the smelting of lead, copper and other ores white arsenic condenses in the long chimneys, and in Austria this smelt-house smoke was called *Hidri* and was peddled by certain people among the arsenic eaters, just as bootlegging is conducted today. Many of these arsenic eaters used this impure arsenic daily throughout a long life and the practice was handed down from father to son, whole families becoming arsenic eaters.

The practice was alleged to give plumpness to the figure, according to James F. Johnston, M.A., F.R.S., F.G.S., from whose book, published by the Appletons in 1855, we take this data. He vouches for the fact that it did give a clean and soft skin, a fresh complexion and plumpness to young women who aimed to attract their lovers by their charms. Secondly, he stated, arsenic gave "longness of wind" and improved the breathing of both men and horses who continuously used it, quite a desideratum in this mountain country.

Arsenic Eating

This impure *Hidri* dissolved very slowly and the beginner in arsenic eating never took over one-half grain two or three times a week, which was cautiously increased, so that the confirmed eater took as much as two grains and used more frequent doses, sometimes daily doses.

Like some of the drug addicts of today who carefully balance their doses to their cravings and never go to dangerous extremes, these arsenic eaters appeared to be hale and hearty, led active lives and appeared in every way normal. But, alas, let their supply of arsenic be cut off and a great feeling of discomfort arose—indifference to surroundings, anxiety, deranged digestion, cramps in the stomach and bowels, loss of appetite, increased flow of saliva, marked constipation and oppressed breathing—so that the condition of the sufferer often became grave. This whole symptom-complex was at once relieved by the customary dose of arsenic.

That this train of symptoms was not all perverted psychology was testified to by the fact that grooms and horsemen in Vienna conditioned their animals, making them plump and sleek and of long wind, by feeding them arsenic. Then, when purchased by some one who was not aware of the arsenic feeding, the animal promptly lost flesh and spirit and its strength rapidly diminished, dying early if arsenic was not continued in its ration or proper treatment given to restore normal conditions, the treatment being principally good feeding and prolonged rest.

Johnston attempted to explain the physiology of the matter by contending that it is probable that the continued use of arsenic in large doses diminishes carbon dioxid output, and the fat of the food is not burned up in supplying the CO_2 and is deposited in the tissues. Be this as it may, arsenic eating was at one time a serious menace to health and was more or less sternly suppressed. It is believed that arsenic was so used even in ancient times, credulous people from time to time taking up its use only to abandon it when its evils became manifest, to be followed in a later age by the same experience among other peoples.

And now we have again reached a vogue for arsenic, more scientifically used, of course; but what will it do in the long run?

The "Other Side" of Benzyl Benzoate

THIS DRUG has been largely exploited and many articles have appeared in support of various therapeutic claims made for it. That it possesses certain merit goes without saying, else so many talented physicians would not testify to its efficacy in certain cases carefully observed by them. We have made it our care to ask many physicians their opinion of the drug, and about half of those who have used it give favorable report, but contend that relatively large doses must be administered, the current dosage being too small. The other half are more or less dubious concerning its value, and three physicians have expressed the view that it is a habit-inducing drug, which is contrary to the usual claim.

Mason and Pieck, in the *Journal of Laboratory and Clinical Medicine,* November, 1920, report elaborate pharmacological studies performed on the intact animal, not on isolated tissue, as was done by Macht and others, using the 20 per cent. commercial preparations diluted with an equal volume of water.

Several experiments showed that the drug *does* lower the blood-pressure, but it is due to a weakening action on the heart which may proceed to actual death. Short of death, very marked depression of respiration was produced, as well as lowering of heart-tonus. Used intravenously, the animal does *not* die of thrombosis.

Pushing the drug to the point of very obvious depression of respiration and circulation, the action on the uterus was very slight. Ordinary doses had no effect on the uterus.

It was pretty definitely proved by the experiments that benzyl benzoate does *not* cause a bronchodilatation in the intact animal under the conditions of their experiments.

As regards pulmonary hemorrhage, the experiments did not bear out clinical contentions, for pulmonary arterial pressure was very slightly influenced, though the carotid pressure fell markedly.

It must be noted that these experiments proved that benzyl benzoate is a respiratory and cardiac depressant, and that when dosage sufficient to relieve bronchial asthma, excessive peristalsis, spasm, etc., is given, the depression is often very great.

Our own clinical experiments bear out some of these contentions, for while not negative clinically, the usual dosage was not effective and the increased dosage given was depressing.

It is, however, not safe wholly to depend upon pharmacologic findings. The clinical test is the final criterion. Since many physicians have reported most favorably on benzyl benzoate, it is probable that from the great mass of such reports may be culled some definite data procured under proper control, and that, despite unfavorable experimental findings, the drug may merit a substantial place in therapeutics. We await such credited clinical reports and will be glad to hear from readers who have treated series of cases with and without benzyl benzoate and kept case records that clearly compare in a critical manner the two groups of cases.

Investigations by the U. S. Public Health Service show that practically all bottle-fed babies thrive as well on powdered milk as they do on natural cow's milk, and that some who do not thrive on the cow's natural milk, do finely on the powdered. The National Commission on Milk Standards urges health and food-control officials to encourage and not to hamper the dried milk industry.

COMING IN NEXT ISSUE

The Opportunity of the Family Physician Toward the Insanity of the Young, by Bayard Holmes, M.D.

"Whatever is to be done for the twenty thousand and more youths who come down with dementia praecox every year must be done before commitment and before sanitarium segregation. The problem of dementia praecox is in the hands of the family physician where the problem of every other disease which has been solved by our profession has been safely placed."

The Relation of the General Practitioner to Mental Disorders, by Samuel W. Hamilton, M.D.

When power of fancy over reason becomes ungovernable and apparently influences speech or action, the patient's mind changes from normal to abnormal—he becomes a menace to himself and others, as is verified in this, Dr. Hamilton's classical paper.

Emergencies in Obstetrics, by Chas. Mazer, M.D.

An obstetrical emergency is like a smouldering fuse of the danger-laden bomb—in either, quick, daring, dextrous action is pressing, or the bomb explodes and the patient dies. With this in mind, Dr. Mazer's paper, short, clean-cut, comprehensive, but practical, will be, we hope, duly appreciated.

Some Sequelae of Fractures and Their Treatment by Physical Measures, by Wm. Martin, M.D.

Dr. Martin, in this excellent paper on the use of electro-mechanotherapy in the prevention of the disastrous after effects incident to improperly treated fractures, narrates how a patient would meet his doctor in the street and silently and scornfully hold up his ankylosed arm—to the natural displeasure of the physician in question. It is to prevent such "monuments" that we recommend the utilization of the methods advocated in this well-written, non-voluminous, practical paper.

Prolapse of the Rectum, by Charles J. Drueck, M.D.

Few diseases are as annoying as is a rectal prolapse—even if it is not, as such, fatal. Few diseases cause as much discomfort, misery, suffering as does this distressing disorder. To render the victim respite, relief, perhaps cure, we present this highly instructive paper of Dr. Drueck. The proctologist as well as practitioner will not, we vouch, be disappointed with it.

Four Cases of Infection Through the Umbilicus, Twenty-eighth Clinic, by A. Mackenzie Forbes, M.D.

The prognosis in these cases of septicemic arthritis in infants is very bad. The mortality in this condition is, at least, seventy-five per cent. This high mortality is due not so much to the surgeon's inability to control the infection as to the lessened resistance of the infant.

Cancer of the Liver and Gall-Bladder, by Hyman I. Goldstein, M.D.

Cancer of the liver and gall-bladder, perhaps, more than cancer anywhere else, is fatal. However, it is so easily confused with other disorders of gastro-pyloric, duodenal hepatic or cholecystic origin that a diagnosis without laparotomy is extremely difficult, often impossible. The light, then, on this troublesome, but important subject shed by Dr. Goldstein in this excellent paper will prove of highly practical value.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

*Preventive Gynecology**

Conserve the Procreative Function of Womanhood

By H. S. LOTT, M.D.,
Winston-Salem, N. C.

There is music in brooks, sermons in rocks—and poetry in gynecology. Still, in spite of the artistic form of this paper, it is loaded with instruction, utility and common sense.—EDITORS.

GYNECOLOGY means not ablation, or distortion of organs, but conservation of the procreative function of womanhood. Function is the soul of the human economy, giving to each organic structure the power of procreation and the spirit of perpetuation of its kind. Just as the glint of the morning sun gives life to mountain top and ocean, so function reflects the vital glow of the procreative organs. Preventive gynecology, therefore, may fairly deal with all causes, both intrinsic and extrinsic, which either shorten or block the vital currents essential to physiologic performance of such function. Chief among intrinsic causes is infection; and infection may be classed under two heads, the ones that are inevitable, coming in the natural course of events in the period of girlhood, and the ones that may be avoided throughout all periods of life by prudence and cleanliness.

Chief among the first, and of much importance because they are inevitable, are the exanthemata, all of which, through the ravages of their inflammatory processes, sear the pelvic cellular structures, and distort the delicate anatomic arrangement of the procreative organs. Thus the tubal fimbriæ, which should "float free" when the maiden stands erect—like the fish's fins in water, become agglutinated to the surface of the ovary, with the inevitable result of blocking normal circulatory currents, and abolishing function.

We know about it, but have we thought about this delicately beautiful and highly sensitive mechanism, the floating fimbriæ, and its spasmodic clasp of the ovary, and how serious a matter this agglutination of structure with lessening of the lumen of the tube will become in the life cycle of young womanhood, and how often the effort is made to correct this pathology and relieve this pain by removing the appendix, thus creating fruitful soil for reflex scar tissue neuroses instead?

And again, at the menstrual epoch, have we framed a mental picture of the ovary with its product just matured and rising to its surface, here to rest a little while in its clean transparent fluid, before rupture of the capsule, which permits it to be caught within the spasmodic clasp of the fimbriæ and started on its journey through the tube? The end of this journey is the uterine cavity, and failing to find its mate in the course of its travel, the ovarian product is swept away by the monthly storm via nature's drainage conduit, or, meeting its mate before reaching the uterine cavity, an ectopic gestation is begun. The old pelvic hematocele, shrouded in mystery, was nothing more nor less than a ruptured ectopic gestation, in keep of the pelvic cellular structures.

Knowing a thing, and realizing it, are quite different. We know that this anatomy exists in the female pelvis, and we have learned to recognize its gross pathology, but have we thought about it, and come to realize that these structures are far more delicate and far more sensitive, and far more vital, because of their dual procreative function, than are any other organs in the economy; and that mental, social, and atmospheric conditions in this, the maiden era of effulgence, are equally causative in the initial shock which disturbs currents and perverts function?

Functional Activity and Trauma and Infection

With marital relations established, assuring also the era of functional activity, the woman confronts again the dangers from infection and trauma, but chiefly of external origin. The Neisserian infection, with an established pathology that is recognized and removed, is not the only one confronting woman through marital relations. If the affectionate and aggressive husband, upon returning to the home, would take a bath first, the pelvic organs might be

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spared invasion by the mixed infection, from which agglutination of structure, with localized pus foci, and abolition of function, are far more fixed and fatal, than from the Neisserian alone. Gonorrhœal pus tubes, pure and simple, may be lifted with ease from their bed in the pelvis; but in pus conditions from a mixed infection, tubes and ovaries are welded to the pelvic floor in an agglutinated mass of cellular structures from which their freeing involves much surgical shock and trauma.

Obstetrics is surgery, demanding the same perfection of toilet and technique; and while trauma at times is unavoidable through disproportion between the maternal outlet and its passenger, *infection is not.*

The normal cycle of labor, beginning with conception, requires time and patience for safe completion. And how beautiful it is, the delicate, almost imperceptible contractile function of the uterine musculare, tolerating to its limit of endurance. Ideal obstetrics means the conduct of labor to safe termination, with no interference at all; and the man who has not the patience, and will not give the time to the woman for safe delivery, should not practice this branch of the service, in which two lives are at stake always, and in which many of the accidents are due either to ignorance or indifference on the part of the accoucher. Forceps are life savers, but they are used too often, and used as a matter of expediency, forgetting the menace they bear to the maternal outlet and the fœtal head. Extensive tears, with destruction to cervix, posterior vaginal wall, and sometimes sphincter as well, while distressing and often unnecessary, are recognized and an effort is made at repair; but it is well to remember that the trifling ones, just a break in the mucous membrane perhaps, offer avenues to infection just as sure and just as inviting for invasion of pelvic cellular structures, with all of its distorting results. The severe cases, with rigors and sweats, covering a critical period of weeks and ending either in a fatality or a pus-focus, are so evident in their origin that "he who runs may read," but the mild infections, with just a slight rigor within the first week, perhaps with a longer period of convalesence and failure to furnish milk the most marked clinical features, are insidious, and fatal to function and fatal to physical comfort afterward.

In these mild post-partem infections the pathology is much like that of the exanthemata—invasion, with slight effusion perhaps of pelvic cellular tissues, congestion of fallopian tubes, with complete or partial occlusion of lumen, and agglutination of its fimbriæ to the surface of the ovary. Thus function is abolished and sterility established that cannot be accounted for because of normal marital relations.

Puerperal Sterility—Repair—Subinvolution

"Post-puerperal Sterility, Its Cause and Surgical Treatment," presented in a former paper, describes more fully this pathology, picturing its clinical history with abolition of function, and also suggests a surgical procedure by which the patency of the tube is restored and the fimbriæ freed from the surface of the ovary.

Recognition and mechanical repair of injuries to cervix, posterior vaginal wall and perineal structure concern the obstetrician very closely. Plastic surgery today is not given the prominence to which it is entitled. For this there are two reasons, first, it is less attractive, demanding much time, care and precision in toilet, technique and material, if ideal results are obtained. Second, *it tells on us.* Much clumsy and unnecessary work may be done through an abdominal incision and the patient remain in blissful ignorance of the fact, but a distressing cystocele, a lax posterior wall, or a torn sphincter, breaking down the first time a woman goes shopping, is a living and lasting monument to the man who assumed the responsibility of its repair.

The sub-involuted, post-partem uterus occurs more often than we realize, and its baneful effects are assured. But it behooves us to remember the importance of the uterus, and especially in this era of functional activity. For four reasons it should not be removed; two of these reasons are anatomic or mechanical, and two are physiologic or functional. The uterus is the keystone to the arch of the pelvic cellular structures, and the living room of the procreative center, and, most important of all, it is *the organ of menstruation* and *nature's drainage conduit.*

May I tell you something, illustrating the attitude of the people and emphasizing the importance and responsibility of our service? One morning, just seated in my office, a gentleman entered with his wife, a young woman of fine physique, having arrived from an adjoining county on an early train. Approaching me at once he said, "Well, doctor, we have decided to have our womb taken out." Certainly!" was my reply, "be seated, take it out while you wait." In a nearby town he found the service demanded, and is now a festive widower.

The uterus is the most intelligent organ in the economy if given a chance; and the sub-involuted, post-partem uterus, if bled freely from its endometrium and the woman kept quiet for a while, will return to normal size and tone, preserving throughout the era of functional activity the integrity of the pelvic cellular arch, and the organ of menstruation, with its most essential function as nature's drainage conduit, and in the literature of today we find promise of the recognition of function as the most important factor in the human economy.

Functional Decline—Preventive Gynecology

Retrogression of vital currents, with atrophic changes, subsequent to this era, completes the life cycle of womanhood. Such changes, with abolition

of function, are in nature's plan, and, being inevitable, we may depend upon them. *As the come and go of circulatory currents throughout the eras of effulgence and functional life, under control of cerebral centers, establish and perpetuate functional activity, with its periods of rest, so the cycle is closed by the recessional wave, and with atrophy of organic structure, when its terminal duty is done.*

Gynecology means safety and comfort throughout this, the final era of woman's life; and with recognition of these facts and the adoption of these principles concerning trauma and infection, with present-day toilet and technique, obstetrics will become preventive gynecology, and the gynecologist, the man with high ideals, of altruistic mould, upon an established plane of distinctive service—

"When the great Ship of Life surviving, tho shatter'd, the tumult and strife
Of earth's angry element, drives safe into port,"

and the "last Bill of Health," is demanded, its reading will show—

"How fared the ship through trials she pass'd?
And what is the state of the ship at the last?"

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Gastric and Intestinal Motility

A Brief, Clear Description of the Many Important Points Involved

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Motility, secretion, digestion, pain, ulceration, spasm and obstruction in the alimentary canal are conditions encountered by every physician in his daily vocation. We thoroughly approve of this paper of Dr. Boodel, as the brief but clear descriptions on the mentioned points will be of undoubted value to every reader.—Editors.

IN THE GASTRO-INTESTINAL canal of a normal individual the digestive secretions are put forth quantitatively and qualitatively within limits that are most elastic but remain normal for that individual and depend to a great extent upon the patient's habits, size, his customs of life, character of food, alcoholic and venereal excesses, occupation, family and business cares, anxieties and sorrows, temperament and other factors which may modify the output. These facts are far more elusive than tumors or chemical data, but they are frequently far more important. In diseased conditions there would seem to be no variation limit, both as to time and secretion.

Of late, gastric analysis seems to have somewhat fallen into disrepute; analysis of the gastric contents being considered too lightly, the interpreters not always fully understanding the meaning of the different reactions in the digestive process, it may be far better, in the diagnosis of chronic ulcer, to depend upon a good history and Roentgen examination than on acidity or traces of blood, but when nine out of every ten dyspeptics examined show no organic lesion a knowledge of the gastric functions in this large group would seem to prove helpful both in prognosis and treatment.

Gastro-intestinal Motility and Factors of Secretion

Gastric and intestinal motility seem to be the most potent and constant factor that modify gastric secretion both as to quality and quantity. If the motility of the gastro-intestinal canal is normal, the stomach will put forth a secretion within normal variations for that individual, provided that some constitutional disease or other outside modifying influence is not active, but if the motility is increased or decreased, the character and quantity of the secretion of gastric juice will change. Rapid emptying time from whatever the cause, will decrease the quantity, acidity, and enzyme content of the gastric juice. A delayed time will have the opposite effect, depending upon the degree of delay. When the motility is not seriously interfered with, but a reflex pyloro-spasm is active at a time when the stomach is empty, a continuous secretion results. In ulcer near the pylorus, a hypersecretion with or without hyperchlorhydria results from an irritable pylorus with spasm which is active during the stay of gastric contents within the stomach. Given a malignant stenosis where all the gastric cells have not been destroyed by the disease or complications, an increase in the secretion and acid will usually be found. In benign partial stenosis there is not only retention but increased secretion and acid values also. In gastritis the acid values are usually determined by the type or the tone of the organ. In malignant disease of the body of the stomach, there is usually rapid emptying time. This, itself, would tend to diminish the acid content. In

ulcer of the body of the stomach, the motility not being affected, the acid values are usually normal. With early carcinoma of the pylorus with obstruction, when all the gastric cells have not been destroyed, a normal or even increased acidity is usually found. The low transversely placed stomach that empties quickly, even though the cells are only slightly damaged, will produce a secretion much less in quantity and acid than an organ that is more vertically placed with slightly impaired motility in which the cells are badly damaged. The few cells that remain in the latter seem to be stimulated by the slow emptying time.

Pain

The greater part of the distress experienced by those suffering from function or organic disease of the stomach or intestines is brought about through irregularities in the motor mechanism of the canal, secretory disturbances usually being secondary to the motor influences.

It is practically proven that the pain or gastric distress of ulcer of the stomach is not the result of high acid, but rather increased gastric contractions and tensions caused by increased peristalsis working against either a spasm or organic obstruction at or beyond the pylorus. At Laparotomy under local anæsthesia the nerves of the stomach or duodenum are insensitive to such physical injuries and chemical irritants that are likely to produce pain when applied to the surface of the body. This has led a number to believe that the distress or pain is produced in the same manner as that of renal colic or entero-spasm. That gastric contractions are important factors in the production of pain is recognized by the term cramp-like used to express the character of pain that is usually present in the obstructive type of ulcer. If a patient suffering from gastric or duodenal ulcer is given a barium carbohydrate meal and the stomach contents removed by means of fractional extraction carried on simultaneously with fluoroscopic observations, the greatest distress of pain will be found to coincide not with the peak of the acid curve but at the time when the pylorus is in the most pronounced spasm. This usually occurs when the last of the meal is being propelled through the pylorus and for sometime after the stomach is empty. Combined hydrochloric acid of the highest grade found in the stomach does not produce distress, and that the free acid alone is incapable of producing the pain of ulcer, is shown by the fact that the same degree of free acidity may be present in the same case with or without distress on different occasions not very far apart.

Food and alkalies introduced into the stomach at the time when distress is most pronounced, relaxes the spasm and the intragastric tension subsides. An altered secretion perhaps also relaxes the spasm. There are as many people taking soda for the relief of gastric distress whose gastric juice is low in acid as there are those with high acidity. The relief of the peristaltic unrest, spasm, or other motor disturbances, which the food and soda give, even when there is a total lack of acid, causes the distress to subside.

Obstruction and Colic

Pain further along the canal in the intestine is caused by irregularities in the tension of the walls of the canal due to spasm or obstruction of one kind or another. Here the pain is sharper, more colic in character due to the limit of compensatory stretching of the intestinal walls, which, owing to the difference in the histological structure or arrangement of the muscular layers will not allow of so much stretching. Colicky pain is then only rarely intragastric; however, it may occur when food is temporarily isolated in the antrum from spasm, obstruction or other pathological conditions of the pars pylorica. In radiographic studies by Wheelon and Thomas, it was found that the antrum and pyloric sphincter are rhythmical in action. Contractions and relaxations follow each other regularly at the rate of three to five per minute. The phases of activity of the sphincter supplement those of the antrum so that the motility of these two parts may be considered as constituting a cycle of the pars pylorica. Given a disease of the pylorus a temporary isolation may give rise to a marked increase of tension in the antrum, causing increased tensions or colic, but this is never so severe or of as long duration as intestinal colic.

Reflex Spasm

Pyloro-spasm is often reflexly excited. The continual gastric distress, hyper-secretion and continuous secretion of chronic appendicitis and other inflammatory processes of the adjacent tissues and the ileocæcal valve can be explained through the ilio-pyloric reflex. The pylorus is automatically closed when the contents of the ileum reach the ilio-canal valve and does not open until the contents of the ileum pass into the cæcum, thus releasing the tension in the small bowel. When this reflex has been disturbed, the resulting difficulty and symptomatology above the ileocæcal valve can be readily understood.

Other Factors Influencing Motility

In the inflammatory processes in the abdomen, a kidney stone, malposition of the uterus, pregnancy, etc., may affect the gastric motility one way or another. Pulmonary tuberculosis and beginning cardio decompensation affect the gastric motility reflexly, most frequently of the extra-abdominal diseases. The variation in the gastric motility caused by functional cardiac diseases, the arythmias, etc., are not directly reflex but are due more or less to a faulty nerve control. While the digestive tract is supplied with nodes such as the plexuses of Auerbach and Meissner, nevertheless, a general nerve control is invested in the autonomic system, comprising the

cranio-sacral system or vagus on the one hand, and the general sympathetic system on the other. These two systems are supposed to counterbalance each other in tonicity. This nervous disturbance either causes or accompanies a cardiac distress.

There is, in all probability, a reflex connection between the gall bladder and gastric motility. The deep peristaltic waves observed in pyloric obstruction can be demonstrated fluoroscopically in gall bladder disease; however, that no real obstruction exists is shown when the opaque meal passes with undue rapidity into the small intestine. This coincides with the acid values, for in most gall bladder cases, the acid content is low.

Reverse Peristalsis

Reverse peristalsis, as a rule, is more common in those portions of the gastro-intestinal canal of small caliber. The exceptions are in the act of vomiting in pyloric obstruction and where there is organic obstruction in the large bowel. In the act of vomiting, we have the most frequent example of a reversed peristalsis. The fundamental causes of vomiting act either on the vomiting center or act reflexly. The latter is the most frequent. It may occur as a symptom in nearly every possible disease. It is of diagnostic importance and value only when carefully studied in its relation to other symptoms and to the body functions. In the œsophagus, reversed peristalsis is fairly common, even when no organic disease exists. The slight cardio-spasm of neurosis is sufficient to excite the act (regurgitation). In certain œsophageal abnormalities, food may be swallowed and after a time returned in a manner resembling true vomiting. In malignant disease, stricture, pressure from without and idiopathic dilatation, food may be returned through the mouth promptly or after several hours. If there exists a long standing incomplete obstruction at the cardia, the ejection of the food may be delayed considerably. Roentgen ray will be able to diagnose them. The returned matter is undigested. It is not acid and may contain mucous or blood or even portions of new growth.

Elements Concerned in Vomiting

In vomiting, the vagus to the muscular coats of the stomach, the phrenic to the diaphragm and spinal nerves to the abdominal muscles are all concerned. The efferent fibers of the vagus convey the vomiting impulse. The muscular coats of the stomach contract, the diaphragm is pushed violently downward while the contraction of the abdominal muscles occurs, the cardiac sphincter is usually relaxed, the pyloric sphincter closed. If the latter is open, bile and intestinal contents may be contained in the vomited matter. In pyrosis the cardiac sphincter relaxes but there is no violent muscular action. In retching, the sphincter does not relax.

As to the central causes of vomiting, drugs, anæsthesia and uremia, diabetes, acute yellow atrophy, Addison's disease, acute infections, pregnancy and cyclic vomiting are most important. Cyclic vomiting in the young is usually a sign of acidosis. Pregnancy may be partly reflex or toxic. Persistent vomiting when jaundice is present should always lead to a suspicion of yellow atrophy of the liver. In the reflex causes, the numerous diseases of the stomach, both acute and chronic, irritating food, drugs, poisons, dilatations and deformities, are the most important. In portal obstruction it arises from venous congestion. Further causes are intestinal obstruction, appendicitis, intestinal worms, peritonitis, biliary and renal colic, and acute pancreatitis. In pulmonary tuberculosis and pertusis, it arises from irritation of the bronchi and fauces. A blow in the epigastrium or a kick on the semi-lunar cartilage of the knee, may cause vomiting. Disturbances of the senses of smell, taste and sight may cause it. Concussion, cerebral tumors, meningitis, hydrocephalis, cerebral sinus disease, tabes and cord disturbances bring it about. So does migraine and epilepsy, and, last but not least, hysterical vomiting.

Conclusion

Gastric and intestinal motility seem to be the most constant factors that modify gastric secretion and if the above simple principles are considered and too much dependence is not placed upon the analysis of the gastric juice, but a better knowledge of gastric and intestinal motility is obtained through the use of the fluoroscope and fractional test meal, the solution of many diagnostic problems will become a more fascinating procedure.

Early Diagnosis in Tuberculosis

R. T. Pettit (*Ill. State Jour.*) says while only one case of advanced tuberculosis in fifty gets well, 90 per cent. of the incipient cases under proper conditions, are cured and again become useful members of society.

It is, therefore, self-evident that one of the most important factors in dealing with this disease is its early accurate diagnosis.

But in tuberculosis, the earlier the disease, the fewer the signs and symptoms, the less certain and exact are their character and the more difficult their interpretation.

The diagnosis of advanced tuberculosis is easy—it can frequently be made across the room—but in the early case, in the case that offers a good chance of recovery, the symptoms are vague, the signs indefinite and ordinary casual observation and examination are not sufficient. More exact and careful methods must be used, more prolonged and careful study must be made; in fact, every possible method, instrument and device must be utilized.

It is not sufficient to determine whether or not the patient has tuberculosis—it must be determined whether the tuberculosis is active, quiescent, latent or healed. It is also necessary to determine whether the patient is in need of sanatorium treatment, or merely observation and repeated examinations at stated intervals, or whether he should be treated for something else or not treated at all. This is not easy and the physician that makes a diagnosis and recommends treatment should realize the importance of his decision to his patient, to the patient's family and to himself.

Proper Interpretation of Symptoms

Gives an Early and Accurate Diagnosis

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Symptomatic Significance

Symptoms are extrinsic expressions of intrinsic conditions and are precious when properly understood. However, when they run wild like a mob in alarm and disorder, their interpretation becomes difficult and their significance problematical. It is then that the physician steps in and distinguishes between the informative and valuable and the rambling and confusing. These points are skillfully discussed and vividly illustrated in Dr. Brown's helpful paper.—Editors.

IRRITATION of a sensory nerve at its periphery, or at any point along its course produces the same sensation at its center in the brain; because of this, pain will always be intangible and indefinite as to its exact cause, very often misleading as to its significance, making rational therapeutic relief very difficult and sometimes impossible.

Unless this fact is throughly understood and not only borne in mind, but applied when an occasion arises making a rational diagnosis urgent and vital, grave mistakes will continue to be made, surgical procedures undertaken, and even the life of the patient jeopardized unnecessarily.

To my colleagues having had years of practical painstaking experiences these words are not needed, but to those amongst us with limited opportunity for observation and clinical study I choose to impress the vital need of accuracy in interpreting the meaning of symptoms from their mode of onset, relative to making a diagnosis.

New text books will have to be written before personal clinical observation as the real means of obtaining scientific and positive conclusions can be dispensed with. No book that I possess, or that I have ever read attempted to impart information obtained from a visual impression of the facial expression moulded by nature to convey human feelings or emotions, an expression that defies voluntary substitution.

Any grave or serious malady of the human body is always reflected in the facial expression, and when we have learned to interpret those eye-beams and stolid cadaverous reflections only produced by nature and fear of impending dissolution of body and soul will we be able to realize the difference between exaggerated verbal descriptions and a real cause for alarm.

Illustration of Misleading Information

Altogether too much effort is exercised in attempting to prove preconceived ideas or opinions, and a false value is so often placed upon some evidence obtained through the various methods of procedure such as palpation, auscultation and various laboratory tests. "This class of information is truthful and absolute when correctly interpreted and it may also be diabolical." It so often errs in that it can be misleading so far as its being a causative factor producing the condition we are trying to locate and define.

Perhaps I may better illustrate by quoting from a case history of recent date. An unmarried woman twenty-three years of age of a very emotional disposition giving vent to hysterical convulsions on small provocation; during an acute illness she was examined treated and advised by several physicians, and to their embarrassment all made different diagnoses; all this she experienced in about ten days. Her trouble, as she explained, was nausea and violent vomiting, and in this condition we, in turn, found her. Her physician was first called in the evening and found patient without fever but with a persistent vomiting. Immediate relief was given, and after due consideration came to the conclusion that some digestive disturbance had caused the trouble, and prescribed and gave the usual treatment.

Next morning, the patient presented no symptoms, pulse and temperature normal, and as she stated, she felt fine. Examination gave no evidence of trouble so she was dismissed with the usual directions, and to be called if needed. On the second day following this, the same symptoms reoccurred, and not being able to locate her physician, another one was called. He very promptly answered the summons and found the patient as his predecessor had, except she informed him of her previous attack and what had been said and done. He gave her relief, and after his examination made a diagnosis of some gall bladder trouble and suggested calling a surgeon for an immediate operation. At that time he made a blood examination and informed her that some infection was present, and as he was not a surgeon no further progress could be made by him. The following fortnight the same symptoms reappeared and heeding the warnings of her former adviser a surgeon was called He examined and prescribed for her and finally concluded that she was suffering with appendicitis,

especially as she was very sensitive over McBurney's point and the previous laboratory findings favored this, and as the patient's financial status excluded the possibility of compensation, he rightfully suggested the City Hospital, and so referred the case and departed.

Her next experience was with a pair of young physicians who proceeded to make a diagnosis by elimination. Somehow they discarded the gall bladder and the appendix, and on finding tenderness over the right ovary associated with a slight vaginal discharge, felt reasonably sure that a Neisserian infection confronted them and promptly informed the patient, who in turn more promptly dismissed them as preposterous and without consideration, as she stated that was impossible.

At this point I was recalled; I say recalled, as I was the first one summoned to attend her, and about ten days had elapsed between my first and second visit. The following picture presented itself:

Nausea and vomiting, two or three degrees of fever every evening, pain over the entire abdomen, exaggerated by colicky paroxysms, followed by bowel evacuations of quantities of mucous. No distention, and, during her periods of quietude, she did not present the expression of a person fearing impending danger. Every morning I would find her sitting up in bed enjoying breakfast and feeling fine, but as the day wore on the symptoms would reappear.

The urine contained a trace of bile, specific gravity was high, otherwise normal. White cell count ranged between seven and nine thousand, the vaginal discharge was red and only slight.

Expectant treatment, watchful waiting and further discussions during the next ten days yielded nothing more definite and very little change in the behavior of the complexity of things.

About two years previous to this I had attended this patient, suffering with some pelvic affection which I had diagnosed right salpingitis. An acute reoccurrence of this condition, together with adhesions of the gut would produce a colitis as described by Osler, and a colitis of this type would produce the fever, nausea and vomiting and the mucous in the stools.

Armed with this theory, I felt justified in urging a laparotomy which I performed on the twentieth day of her illness. The pelvis was a mass of adhesions incorporating both tubes and ovaries, and a part of the small intestine and the cœcum, the appendix and the gall bladder appeared quiet, unoffending. This condition was treated in the usual manner. Convalescence was uneventful and she was up and out in a month. She has regained her usual avoirdupois and is, as she stated, feeling her best.

The diagnosis I made in this case was not absolute, but logical and in accord with positive facts. My personal acquaintance with this patient and the knowledge obtained from bedside attendance at the onset of her trouble defied deception and supplied very reliable proof of what she probably did *not* have.

Detecting the Chief Offender

That a patient may have several diseases at one time is common knowledge, that a trained clinician will discover and recognize all existing pathology is probable. But to state which would be the offender that compels the patient to seek relief, the observing practicing physician will forever hold the deciding information.

I stand guilty of a sin of omission. Had I more seriously considered the presenting symptoms when I first called to attend this patient, perhaps with little help the true nature of her malady might have been detected.

Vomiting as a symptom accompanies a multitude of diseases, some within and some without the abdomen, and if it is not relieved, or is allowed to persist for any length of time, it produces enough general disturbance to deceive all but the trained clinician, and to make possible a diagnosis of almost any disease affecting the abdominal cavity. Furthermore, information derived from palpating an abdomen made sore or painful after several days of vomiting, is of little value and is apt to mislead, as it did in this case.

No censure is due the men who visited this patient. They in turn made as much of an examination as is generally made, and arrived at their varied conclusions with sufficient evidence to warrant their diagnosis. The expressions of the patient with her verbal exaggerations formed a syndrome which would deceive all but a God of Wisdom.

The presenting symptoms when they called were out of relation with the cardinal facts; in other words, the onset of this condition had nothing in common with diseases of the gall bladder or the appendix, the adhesions of the gut in the pelvis produced a reverse peristalsis, nausea and vomiting, the persistence of this condition brought about the inflammatic fever, leucocytosis and general abdominal pain.

The Value of an Early Diagnosis

It is not my desire at this writing to give a detailed description of the cardinal symptoms of the various diseases or to describe their course. I merely wish to emphasize their existence and a possibility of detecting the true nature of a given disturbance by recognizing them and understanding their significance at the very outset, after a lapse of several days complicating symptoms manifest themselves, "not always, but too often," and then a syndrome exists which defies the most efficient observer to make a correct diagnosis. Without any reservation, I most emphatically assert that until the general practitioner realizes that in his field lies the real opportunity for investigation and research, "little will be accomplished in the art of early diagnosis."

Here we will eventually construct the foundation

for the pivotal point in a patient's life, whether the invading disease will end life, or will give away to treatment. A disease is curable or incurable just in relation to the time it is recognized.

How many diseases exist today that are hopeless from the very onset? How much time is spent in studying the significance of the presenting symptoms of what is generally termed minor complaints? All diseases which end life get their start from some infinite cause.

What symptoms are significant of the invasion of a grave malady and how shall we classify them as to their behavior? A headache is insignificant unless its character is considered. Our close attention to these trifles will eventually create an appreciation of their diagnostic value, and when we have reached this stage, the utilization of modern appliances and the assistance of an efficient laboratory technician will be of greater service.

Familial Epistaxis

A THOROUGH PRESENTATION OF THIS RARE AND INTERESTING DISORDER

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Camden, N. J.
Assistant Visiting Physician and Chief of the Medical Clinic, Northwestern General Hospital, Philadelphia; Assistant in Medicine, Graduate Medical School, University of Pennsylvania, Philadelphia; Assistant Visiting Physician, Philadelphia General Hospital.

Dr. Goldstein says the diagnosis is not difficult. One must avoid the mistake of diagnosing these cases as hemophilia, hemorrhagic diathesis, purpura, scurvy, or pernicious anemia, or the "phthisical state with hemorrhages."—EDITORS.

SEVERAL INSTANCES of familial epistaxis in one family recently seen by me and also eleven occurring in another family which I studied lead me to report these cases.

There are only about thirty-three or thirty-four families suffering from this form of epistaxis (with skin lesions) on record in the entire medical literature of the world. It will therefore be of considerable interest, I hope, to go into details concerning this clinical entity, and to review the literature on the subject.

Report of Author's Cases

I. The first family I wish to report showed three cases, the father and two children (a daughter and a son). These cases appeared to be similar to those reported by Wolf Freudenthal, of New York, and by Paul, of Australia.

(1) Mr. H. Z. C., aged 33 years, white, adult, male. Auto-parts machinist. Past history negative, except that he has had frequent attacks of nose bleed for many years. In the past three or four years he has been complaining of severe headaches, particularly a left hemicrania. He is married, has four children, two boys and two girls. His wife has not had any miscarriages. Venereal disease denied. One son and one daughter have had repeated attacks of nose bleed for a number of years. General examination negative. The X-ray findings reported by Dr. M. K. Fisher are as follows:

Teeth—Periapical abscess at the root of the last upper left molar. This should be extracted. An incipient abscess at the root of the last molar (lower left). This tooth, I believe, can be saved by early instituted treatment. Sinuses—distinct clouding of the left antrum and the right frontal sinuses. This condition is due to the presence of a fluid exudate or pus. The other accessory sinuses are normal.

Nose and throat examination by D. N. Husik showed free discharge of a muco-purulent nature from the left nostril and a degenerated middle turbinate of a colloidal character with obstruction to free drainage from the ethmoid and frontal sinuses. There is distinct evidence of a frontal sinusitis and disease of the left antrum of Highmore.

(2) Dorothea C., aged 8 years. White girl, daughter of the above patient. Has had measles, chicken-pox and whooping cough. Has enlarged tonsils and adenoids. General examination negative. Has had repeated attacks of epistaxis and more often than her little brother. On examination thirty-seven small brownish spots were found scattered over the trunk, neck and legs. One small telangiectatic spot about two inches below the right ear on the side of the neck and the left ear. Numerous very fine and dilated capillaries (arborescent and spider-like) over both cheeks. A few dilated capillaries are seen over the left nasal ala. One dilated capillary visible over the sternal end of the right clavicle and one over the right shoulder. There are some visible capillaries over the space between the left scapular spine and vertebræ.

(3) Harry C., aged 6 years. White boy, brother to the above patient. Has had measles, chicken-pox and la grippe, whooping cough. Has attacks of

hemorrhage from the nose. These attacks are not very frequent of late. General examination negative. Has a pale pink nevus on the back of the neck, 2 inches by 1½ inch. Has another "birth-mark" over the middle of the back 1¼ by ¾ inch. He has twenty-eight brownish spots scattered over the body, resembling dark pigmented freckles. There is visible one area of dilated capillaries over the left cheek.

The father had several telangiectatic lesions, one or two on the neck and about thirty-five or forty dark pigmented spots, dark brown in color, scattered over the neck, trunk and arms. His tonsils were removed about eight months ago by Dr. Levi Hirst, of Camden.

II. The second family showed eleven cases, and these appeared to be similar to those reported previously by Legg (1876), Chiari (1887), Rendu (1896), Osler (1901 and 1907), Steiner (1917), Hanes (1909), Kennan (1902), Hutchison and Oliver (1916), Gundrum (1919), Weber (1907), Babbington (1865), Langmead (1909), Richardson (1917), Kelly (1906), and a few others. This was a typical instance of familial epistaxis with hereditary telangiectasia.

Case 1—Mrs. R. W., aged 42 years, white, married, has had severe persistent and recurring attacks of epistaxis since childhood. She has two daughters and two sons. One daughter, aged 20 years, has bled from early childhood. The other daugnter, aged 11 years, has bled from the nose nearly all her life. The patient has telangiectatic lesions on the nose, nasal septum, lips, tongue, chin and cheek. There are a few lesions on the left side of the neck, and one on the middle finger of the left hand. None are seen on the thighs and legs. The larger spots on the tip of the tongue have bled on several occasions. Bleeding from lower lip occurred on one occasion. Sometimes the hemorrhages from the nose are very profuse and uncontrollable. The patient received ferrous carbonate, sodium arsenate, calcium lactate and calcium chlorid at various times. She also used thyroid and lutein for a brief period. Secondary anemia is present. Her eldest daughter has a few spots on the tongue and one over the right clavicle and some on the forearm. The younger daughter has none on the face or body, and only two very small ones are seen on the tongue. The patient's mother, who is dead, also had recurring attacks of epistaxis and red spots. Three sisters are married. Two sisters have nose-bleed; one sister, 34 years of age, bleeds profusely from the nose.

Her four children, J. H., 13; A. H., 11; M. H., 6, and I. H., 3, all suffer from epistaxis. Another sister, A. L, aged 32, bleeds from the nose. Her son, M.L., aged 8, does not bleed. A third sister, Mrs. M. C., aged 30, and two children, J. C., aged 10, and E. C., aged 5, apparently do not bleed.

Mrs. R. W. (the oldest sister), had a "stroke" and hemiplegia January 20, 1918, after a little giddy spell. This attack was due to defects in the small vessels, like those occurring in other parts of the body, or a peripheral sclerosis. Blood Wassermann tests were negative on several occasions. Blood chemical tests showed urea nitrogen 18 mg. in 100 c.c. of blood; nonprotein nitrogen, 35 mg., creatinin, 2.20 mg.

Urine, January 26, 1918—Trace of albumin; sugar, less than 0.1 per cent.; chlorids, 0.5 per cent.; specific gravity, 1.005; granular and hyalin casts; flat and round and caudate epithelial cells; urea, 1 per cent.; acid.

March 11, 1919—Albumen present; urea, 0.5 per cent.; amorphous urates present; total solids, 16.3 gm.; faintly acid; specific gravity, 1.009; no casts; no sugar.

July 24—Acid; specific gravity, 1.015; no acetone; no diacetic acid; indican fifteen times normal; urea, 0.6 per cent.; no diazo reaction; slight excess of urorosein; no casts and no cylindroids; many red blood cells; many renal epithelial cells; large number of leukocytes (pus). Thirty-five ounces of urine were voided in twelve hours.

Eyes, April 30, 1919—Posterior polar cataracts in both eyes.

Blood—Coagulation and bleeding time normal. February 15, 1918—Erythrocytes, 3,980,000; leukocytes, 12,600; hemoglobin, 61 per cent. Differential count: polymorphonuclears, 64 per cent.; small mononuclears, 26 per cent.; large mononuclears, 4 per cent.; transitionals, 2 per cent.; eosinophils, 3 per cent.; mast cells, 1 per cent. July 24, 1919—Erythrocytes, 3,000,000; leukocytes, 14,600; hemoglobin, 68 per cent.; polymorphonuclears, 60 per cent.; large mononuclears, 12 per cent.; small mononuclears, 24 per cent.; transitionals, 2 per cent.; eosinophils, 2 per cent.

The phenolsulphonephthalein renal function test was practically normal. The blood pressure varied during the past three years between 128 systolic, and 90 diastolic, and 110 systolic and 80 diastolic.

Comment

At the time she had the stroke it was difficult to decide as to the cause. One could not easily differentiate between embolism, thrombosis and hemorrhage. There was no evident source of an embolus. A faint murmur could be heard over the heart, and at times it was faintly audible at the apex, but it could be attributed to the anemia. Shortly after the cerebral hemorrhage the systolic blood pressure was 140; however, at no time during the past three years has it been higher than the normal average, often below. She now complains of a heavy feeling and numbness in the limbs, and "heaviness with giddy or dizzy feeling in the head." She has crying spells occasionally, worrying over her condition.

There is no history of hemophilia in the family and none of the family bleed excessively from cuts.

One son, A. W., aged 12 years, has several small telangiectases, and a large pale reddish nevus on the back of the left shoulder and one telangiectatic lesion below the right lower eyelid. He does not bleed from the nose. The eldest son, L. W., aged 23 years, apparently has neither epistaxis nor many telangiectases. There are a few over the scapular regions (supraspinous), and one lesion about four inches below and to the left of the left nipple.

Case 2—Mrs. Anna L., aged 32 years, married seven years, had one miscarriage at six months, and one premature birth at eight months, the child living only twenty-four hours. Her husband had a positive Wassermann test. The patient too had a positive Wassermann nine years ago. She has one boy, M. L., aged 7 years, living and well. The boy does not bleed from the nose. The patient has had nosebleed since early childhood, very frequent; bleeding stops of itself. Had influenza and pneumonia and measles. She bleeds very profusely from the left nostril. Her hands are cold, and she gets short of breath on exertion. Occasionally, she bleeds from hemorrhoids. She has seven or eight small spots over the back, on the shoulders, two small spots back of ears, several on the left side (anteriorly) of septum of nose and one or two on right side of septum. There are a few radiating dilated capillaries around the alæ of the nose. She also has clubbed fingers; these are cyanosed and cold; the lips are cyanosed and get "blue" very often. Blood pressure: systolic, 95; diastolic, 70. No cardiac murmurs were heard at time of the examination, but the heart sounds were not of good quality; they were weak and muffled. She is a sister to the above patient of Case 1, Mrs. R. W., and to Mrs. E. H. (Case 3). Numerous Wassermann tests have been negative, following specific treatment taken up to a few years ago.

Case 3—Mrs. Eliz. H., aged 35 years, has four children. She had one miscarriage. One infant, aged 1 month, died of whooping cough. She was operated on four years ago for ruptured gastric ulcer with intestinal obstruction. She had been bleeding from the nose almost daily since childhood. She says her mother bled "terribly" from the nose for a great many years, and she thinks her death was due to these severe nasal hemorrhages. She has a pinpoint lesion above the right eyebrow, three or four spots on the right cheek over the malar bone, one pinpoint lesion on the left cheek, one inch to the left of the outer angle of the left eye; three or four lesions on right half of the lower lip; one spot on the under surface of the upper lip; one on upper gum; one spot on neck at base (right side). She gets attacks of nosebleeding even during her sleep.

Case 4—Marvin H., aged 5 years, was always well, except for severe nasal hemorrhages. He has had nosebleed daily, and during sleep, since 2 years of age. He has one spot on left cheek, one inch below outer angle of left eye, and one on right cheek, one inch below and in front of right ear. Several dilated capillaries are noted on right side of septum of nose. He had measles. Mother says boy "bleeds in streams from the nose" daily, which stops itself, after bleeding for five or six minutes. In these cases epistaxis was the first manifestation of the disease. While the hemorrhages have been severe and prolonged there is only a comparatively mild secondary anemia. In appearance the patients do not look very anemic at all. Sometimes washing the face, or using a handkerchief or other very slight trauma is sufficient to bring on an attack of epistaxis.

Blood examination, October 11, 1920—Hemoglobin, 70 per cent.; erythrocytes, 2,900,000; leukocytes, 8,000. Differential count: Polymorphonuclears, 51 per cent.; small lymphocytes, 45 per cent.; large mononuclears, 3 per cent.; eosinophils, 1 per cent. Marked poikilocytosis and amisocytosis. Blood Wassermann negative.

Cases 5 and 6—Aaron H., aged 11 years, and Jeanette H., aged 13 years, bleed very profusely from the nose since 2 years of age. They are children of E. H. They have "spots."

Blood examination, October 11, 1920—Jeanette H.: Hemoglobin, 75 per cent.; erythrocytes, 3,500,000; leukocytes, 7,400. Differential count: Polymorphonuclears, 72 per cent.; small mononuclears, 25 per cent.; large mononuclears, 2 per cent.; eosinophils, 1 per cent.; some anisocytosis and poikilocytosis. Blood Wassermann negative.

Aaron H.: Hemoglobin, 80 per cent.; erythrocytes, 3,250,000; leukocytes, 11,000. Differential count: Polymorphonuclears, 61 per cent.; small mononuclears, 36 per cent.; large mononuclears, 2 per cent.; eosinophils, 1 per cent. Some poikilocytosis and anisocytosis. Blood Wassermann negative.

	Coagulation Time	
	Bogg's Method	Test Tube
Marvin H.	5 min.	6 min.
Jeanette H.	6 min.	7 min.
Aaron H.	5 min.	4 min.

Hereditary Telangiectases With Epistaxis

The hereditary type of telangiectases with epistaxis is principally of three forms: (1) pinpoint, (2) spider form, the most common, and (3) nodular.

Strictly speaking, telangiectasis is a dilatation of the terminal vessels, i. e., capillaries—but it is a term used also to describe dilated venules.

Osler speaks of a type of lesion occurring often on the cheeks, nose and ears in persons exposed to the weather, and in heavy drinkers. Often there occur arborescent, distended venules on the skin of the thorax along the line of the attachment of the diaphragm. Or the lesion may occur as small pinkish spots from 2 to 5 mm. in diameter, perfectly smooth and uniform, without visible venules, which disappear completely on pressure. They may be only pinpoint in size, and are often of a vivid pink color. They may appear suddenly and last for sev-

eral years and then disappear. Then, again, they are small nodular forms, raised, bright purple or crimson in color, from 1 to 5 mm. in diameter. They may be congenital. They are supposed to occur sometimes with cancer of the abdominal organs especially of the stomach, but they are common in old persons and in many different conditions. The spider form is made up of a central dot, from which radiate five or six venules, or rather toward which some vessels converge (nevus araneus). Spider nevus is often associated with cirrhosis of the liver. The spots are from 2 to 3 cm. in diameter. They may occur following a Roentgen ray burn and in scleroderma. The mat form is from 1½ to 4 inches in extent. It is vivid pink in color. It may occur in cirrhosis of the liver. Osler has also seen it in a case of leukemia. Generalized acquired telangiectases, telangiectases essentielles en plaques of the French, occur in large numbers over the trunk and extremities as numerous stellate venules. This is a rare form. Stokes found about thirty-three cases. Multiple hereditary telangiectases with recurring hemorrhages is the form under discussion in this paper.

Osler, Brocq and Vidal recognized the rare form of generalized telangiectases or telangiectases circumscripta universalis involving the skin of the trunk, the arms and legs.

Paul reported the first family with this condition from Australia:—

A woman, aged 32 years, had had epistaxis since childhood. At about adult life, angiomas appeared, and increased in size and number with advancing years. A dozen or more of bright red angiomatous lesions appeared on each side of the patient's face, varying from a pinpoint to a millet seed in size. The mucous membrane of the lips was extensively involved. The tongue showed numerous angiomas. A few lesions were present on the hard palate and on the conjunctival surfaces of the eyelids. An angioma on the nasal mucous membrane was present, from which hemorrhage frequently took place. This was destroyed by radium, with the result that the epistaxis was greatly diminished. There were also a few telangiectases on the palmar surface of the left hand and on the dorsal surface of the fingers.

In spite of the long-continued and persistent attacks of epistaxis, the patient was not anemic. Blood count: Erythrocytes, 5,110,000; leukocytes, 12,200. There was no tendency to hemophilia.

Twenty-one members of this patient's family suffered from the disease, from the great-grandmother down to the two children of the patient, a boy, aged 3 years, and a girl, aged 7 years. The patient's great-grandmother, grandmother, grandmother's sister, mother and mother's three brothers and one sister, the patient's six brothers and one sister, and her two children were all affected. These two children had recurring attacks of epistaxis, but no angiomas.

As to the hereditary form with hemorrhages, it is described by Osler, Weber, Hanes, and Steiner. In this group of cases the lesions of dilated capillaries are confined largely to the skin of the face and the mucous membrane of the mouth and nose. The tendency to recurring nasal hemorrhages (familial in type) is a prominent feature and there is a hereditary history of recurring hemorrhages and telangiectases in the family. Angiomas of the skin associated with acromegaly have been reported only by Head.

The lesions in the hereditary group of cases are more apt to become prominent and increase in numbers between the ages of 35 and 50. Most of these patients suffer from symptoms of a profound secondary anemia. The most common seats of the telangiectases are the cheeks, lips, ears, nose, fingers and tongue. They first appear in the skin or mucous membranes as pinpoint spots, like pinpricks, a little beneath the surface, and then they increase in size and become more prominent and darker in color. A fine vascular network may be seen under the skin in some places.

Diagnosis

The diagnosis is not difficult. One must avoid the mistake of diagnosing these cases as hemophilia, hemorrhagic diathesis, purpura, scurvy, or pernicious anemia, or the "phthisical state with hemorrhages." The clotting and bleeding time is always normal, and there is no history of hemophilia in these cases. The blood platelets are not appreciably reduced, and the erythrocyte resistance remains at the normal level.

Treatment

Treatment does not confer much relief from the hemorrhages and lesions. Iron, arsenic, calcium salts, thyroid extract and corpus luteum have all been tried with little effect. Osler once gave hypodermically 250 c.c. of a 1 per cent. gelatin solution. Calcium chlorid, 15 grains, three times daily in cinnamon water has been the remedy frequently used by me. As the bleeding seems to become more severe after the fourth decade, we must double our efforts, especially in women reaching the climacteric period, to try to stop the attacks of epistaxis, because of the high strung and tottering nervous system. Sometimes, epinephrin, antipyrin solution, or hydrogen peroxid, may check the bleeding. Kephalin, thrombokinase, coagulen, thromboplastin, blood serum, whole blood, or even blood transfusion may be tried.

The chromic acid bead, electric needle, radium and even excision may be resorted to, for some of the telangiectatic lesions. The carbon dioxid stick has been used with some success.

Some Features of the Affection

This rare affection of the skin and mucous membranes of the nose and mouth, which may involve also the cheeks, ears, tongue, lips, fingers and other

parts of the body, is associated with recurring epistaxis of the familial type. In one of my cases, hemorrhage in the brain occurred, causing temporary hemiplegia and other symptoms of apoplexy. I have been able to find only thirty-two cases reported. Steiner found twenty-eight, including three of his own. Osler, in one of the best contributions to the subject, reported three cases; and at that time (1901) he could find only one reference to a similar case, reported by Rendu. Six years later, Osler reported an additional case. However, he overlooked the cases reported by Chiarai and J. W. Legg. Only eight cases were found by A. Brown Kelly, and he reported two cases of his own. None of the numerous works on dermatology, rhinology or medicine mention this condition. Hartzell speaks of "inherited hemorrhagic telangiectasis," and also makes reference to papers by Hyde, Crocker, Mandelbaum, Osler, Gjessing, Hutchinson, Stokes, and Majocchi on telangiectases.

Among the most striking characteristics of this disease is the tendency to affect more than one member of a family, and the marked tendency of a large number of the patient's relatives to suffer from epistaxis for many years. For example, two of Osler's patients were brothers and frequent attacks of epistaxis occurred in five other members of the family. Legg's patient had always shown a tendency to bleed from traumatic causes, and had painful swelling of the joints at regular intervals, resembling the "hemophilic" state. There was a history of epistaxis in three generations, and developmental telangiectases were present on the patient's face and trunk, but there was no history of hemophilia. This was the first family in which telangiectases were found. Babbington reported a case of hereditary epistaxis in a native of Lincolnshire. The patient had been subject to frequent and violent attacks of epistaxis during all her life. She had four children, two of whom (man and woman) likewise had habitual and severe attacks of epistaxis. Recurring epistaxis had been observed for five generations. Rendu was the first to associate the tendency to epistaxis with multiple telangiectases as manifestations of a distinct clinical entity. The condition must not be considered as being hemophilic, nor should it be confounded with the so-called hemorrhagic diathesis, nor with the acquired angiomatous lesions occurring in cirrhosis of the liver.

Hanes described fifteen cases, including cases of his own, occurring in two families. He overlooked Josserand's and Gottheil's cases. He defines the condition as a hereditary affection, manifesting itself in localized dilatations of capillaries and venules, forming distinct groups or telangiectases, which occur especially on the skin of the face and the nasal and buccal mucous membranes, and give rise to profuse hemorrhage, either spontaneously or as the result of trauma. A hereditary tendency, both as to the formation of telangiectases and epistaxis, is the only factor constantly present. Syphilis, alcohol and other infections or intoxications do not appear to have any definite relation to this condition.

Further Elucidation

A number of cases have been reported, but with no other instances in any of their families, isolated examples, in other words, of a similar clinical entity, but not truly of the typical hereditary and familial variety. In some cases telangiectases, of hereditary nature, were noted in one or several members of a family, but without recurring epistaxis; in others, persistent severe recurring attacks of epistaxis of familial type were mentioned, but no telangiectases reported in the patient or any of the members of the family. Such isolated instances have been reported by A. Brown Kelly, T. Corlett Fox, E. Vidal, L. Lack, J. Galloway, H. G. Adamson, Chauffard, Babbington, Lane, K. Kop, J. N. Hyde, Frick, Letienne and Arnal, J. H. Stokes, Osler, Morrow, and several others.

Hanes believes the three factors of etiological import are heredity, repeated traumatisms and the abuse of alcohol, and that the hereditary tendency to the disease is by far the most striking and constant.

Males and females are affected alike, and both are equally capable of transmitting it to their offspring. Hemorrhage is the one constant symptom of the disease and the source of all the other symptoms. Secondary anemia may become quite serious. Hemorrhage in the great majority of the cases occurs in the form of epistaxis. But epistaxis may be entirely absent. Thus, hemorrhage may occur from the telangiectases on the tongue, lips, or fingers, or buccal mucous membrane, and even rectal bleeding may occur. In my case, the patient had a "stroke," along with severe attacks of nosebleed, and on two occasions bleeding from the tip of the tongue and lip, of a quite pronounced character occurred.

Multiple telangiectases constitute the sole characteristic sign of the affection. Most commonly they occur on the buccal and nasal mucous membranes and lips. They have been noted on the face, feet, hands, ears, scalp, neck, forearms, and chest. Coe, Chauffard, Chiari and W. Legg have mistaken these cases for hemophilia.

Dr. Pringle, on April 17, 1913, in discussing Sequeira's case before the dermatological section of the Royal Society of Medicine, reported a case of telangiectases of the skin associated with hemorrhage from the throat and severe hemoptysis—from large dilated blood vessel on epiglottis. No phthisis was found to be present. Nearly all the recorded hereditary cases that I was able to find in the literature have been carefully and completely epitomized by F. Parkes Weber, F. Hanes, A. Brown Kelly and W. Steiner; Stokes reviewed many of the isolated instances, particularly the generalized telangiectasia cases.

Summary

1. Thirty-three families afflicted with this disease

are on record in medical literature. Several cases are on record which are not altogether typical of this condition. They have been mentioned in this review, but are not included in the thirty-three cases.

2. No general treatment seems to be effective, owing to the congenital developmental defect of the vascular system inherent in these patients.

3. Local treatment may reduce the number and severity of the hemorrhages and improve the general conditions of the patient.

4. Dermatologists, rhinolaryngologists and internists should examine patients who complain of these skin lesions (telangiectases) or recurring hemorrhages more thoroughly and analyze the family histories. In this way, some previously undiagnosed or undiscovered cases may be brougth to light.

5. A case of hereditary telangiectasia with severe recurring nasal hemorrhages is recorded and cases are mentioned of two married sisters, seven children and the patient's mother, all in the same family, suffering from the same disease, a total of eleven cases in one family, and another family in which father, son and daughter are suffering from this condition is reported.

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"The Feather Pillow"

IS IT A FACTOR IN THE SPREAD OF DISEASE?

By S. E. Gibbs, M.D.,
8 W. 128th St., New York.

Another indictment against the feather pillow is the fact that protein matter exists therein and some cases of asthma, in persons sensitized to proteins, are kept up by inhaling the dried protein matter from the feathers.—Editors.

FROM TIME IMMEMORIAL the feather pillow has held its place at the head of the bed; generations have laid their heads to rest upon it, have breathed, perspired, wept, and died on it. The infant with gastro-intestinal trouble has vomited on it, the children with various infectious diseases, mumps, whooping cough, chicken-pox, measles, scarlet fever, typhoid, diphtheria, and in some cases tuberculosis, to say nothing of minor ailments, have added their quota to its insanitary condition.

It is true good housekeepers are particular about having the pillow cases regularly washed and carefully ironed. But what about the feathers they contain? In many families they are not cleaned once in a generation.

Now a feather is an animal substance plucked from the fowl; the quill, no matter how small, contains organic matter, sometimes even a trace of blood; organic material, even if kept dry, has a tendency to decay, the downy part of the feather absorbs and retains moisture, often loaded with perspiration and germs.

Our New York Board of Health has decided that it is almost impossible by fumigation to destroy all disease germs in quilts and blankets; it is therefore impossible to destroy them in pillows. The question, therefore, arises how far is the feather pillow responsible for the retention of disease germs and the subsequent spread of disease?

A chain is no stronger than its weakest link, and with all our efforts by disinfection, immunization with serums, and quarantine regulations, are we not overlooking at least one link in the chain that may render futile our efforts to prevent the spread of the various infectious diseases?

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

Twenty-sixth Clinic

Ancient Fracture About the Elbow Joint

ON SEPTEMBER 11, 1920, P. B., number 760, aged thirteen years, was brought to the Children's Memorial Hospital.

The history given by the mother was that he had fractured his left elbow a month and a half before.

He was taken to a bone-setter and treated by him for some weeks.

He was brought to the Children's Memorial Hospital suffering from deformity and pain.

Examination

There was swelling in relation to the left elbow. Normal extension of his forearm was possible, but flexion was limited to more than a right angle. This limitation seemed to be due to bony obstruction. Pronation and supination were normal.

On palpating the elbow it was noticed that as the examiner's fingers travelled up the radius and ulna, when they approached the elbow joint a large mass of bone was felt on the anterior surface.

This mass felt very much as if the lower end of the humerus at its junction with the forearm has been dislocated forwards. On the other hand, when the examining fingers were brought down the anterior surface of the humerus, this mass of bone was felt to lie more superficially than the shaft, suggesting that the lower epiphysis of the humerus had been pushed forward.

An X-ray was taken which showed a supracondylar fracture with a dislocation of the lower fragment forward and inwards, thus causing obstruction to flexion by the impinging of the ulna against the lower fragment. There was, in addition, a fracture of the outer condyle of the humerus.

Treatment

A careful examination was made of both patient and X-ray in order to see what possibility there would be of reducing this fragment by closed methods.

While the evidence considered did not give much hope of the possibility of being able to do this, it was felt advisable to try to secure at least a false reduction in preference to performing an open operation.

These false reductions have been recommended by Sir Robert Jones, who, in his article published in the *Clinical Journal*, October 26, 1904, says:

"Good results will be recorded in old cases of neglected supra- and intra-condyloid injuries. The method is very gratifying when applied to old and apparently hopeless cases."

Sir Robert Jones draws our attention to the production of "sham" reductions exercised upon old cases of backward displacement of the forearm. He says: "As you know, an ancient dislocation of the elbow is difficult to reduce. I have succeeded in a few cases after two months. I have failed in some as recent as a month. In these cases, however, it matters but little whether one fails or succeeds, for an equally good range of movement can be secured by a sham as by a real 'dislocation' (reduction). A patient, young or old, is brought to the surgeon with a history of some months. Both the ulna and radius are displaced backwards, the arm slightly flexed, with only a few degrees of motion. In making a 'sham' reduction we endeavor to bring the arm into a flexed position for two reasons: in the first place, it is more useful there; in the second place, the olecranon process is nearer its normal habitat, and the range of movement will be increased. Ether is administered, and slowly but forcibly slight flexion is attempted. This may prove difficult and require much power. When a certain degree has been accomplished and the surgeon feels that a fracture might follow more, the arm is fixed in that position for a few days and again an anæsthetic is administered. Quite easily by this time a few degrees more can be obtained and the operation is repeated until at length acute flexion results. The arm is then kept in this position for two or three weeks, passive movements avoided, and under suitably applied tests, to be again referred to, the joint is released."

History of the Patient

To return to the history of our patient, P. B., age thirteen years. We have tried to secure a false reduction of the deformity present, as suggested by Sir Robert Jones.

On three occasions we have anaesthetized this patient and three attempts have been made to assure this false reduction. The first was made on September 29,

1920, the second on October 6th and the third one October 20th. After each of these manipulations the patient's arm could be flexed to a greater degree than before the manipulation. At the same time examination made after these three manipulations demonstrates that the forearm cannot be flexed to a right angle. Supination and pronation are, however, normal.

It is impossible to flex the elbow to a right angle. This movement seems to be prevented by the anterior position of the lower fragment of the humerus.

You will notice that a little more flexion is possible at the elbow joint than was possible at the time of the first examination made at the Children's Memorial Hospital, but is there sufficient flexion to assure that he will have a really useful arm?

Examination of an X-ray taken of the elbow suggests the impossibility of being able to increase by manipulation the amount of flexion possible.

The lower fragment of the humerus is placed so far anteriorly that it would seem to be mechanically impossible to secure further flexion without operative procedures.

In our last clinic we suggested that there is a type of case where operation is imperative. Sir Robert Jones has reported the removal of obstructing condyles, exuberant callus, the heads of displaced radii and prominent over-hanging diaphyses in unreduced supracondyloid fractures. Do you agree that this is one of those patients where open operation is now indicated *because* repeated attempts at manipulative reductions have failed?

Will the Operation Improve the Patient's Condition?

No one is justified in persuading his patient to undergo an operation unless he can be reasonably certain that the patient's condition will be improved by operation.

In the patient whom we have examined I would say that open operation should be performed if we can be reasonably certain that we shall improve the patient's arm. On the other hand if there is only a possibility of improving the patient's arm and an equal possibility that our operation shall be followed by less motion in the elbow than is presently possible one must be very careful about advising operative procedures.

Perhaps we have erred in the past in being too cautious. We have felt diffident about recommending operative procedures in this boy, and we have brought him to your notice in order to have the benefit of your opinion as to the advisability of trying by operative procedures to increase motion in his elbow joint.

A Case of Tuberculosis of the Foot

Twenty-seventh Clinic

THE PATIENT, C. B., age 31 years, number 4968/19, reported at the Montreal Hospital with the following history:

She twisted her left ankle in February, 1916. This was followed by a swelling and ecchymosis. She did not consult a doctor until September, 1916, when she presented herself at the hospital, saying that she had not ceased to have pain and swelling since her accident. A clinical examination was made. This revealed much thickening about the ankle. This was especially noticed below the internal malleolus where also there was tenderness. The foot was held rigidly by muscular spasm. Movements in all directions were restricted. An X-ray was taken at this time. This, however, gave us no information.

Tuberculosis of the Ankle

The patient was considered to be suffering from tuberculosis of the ankle and she was treated for this in the Out-Door Department for one year without any real benefit. She reports that at the beginning of the second year she began to get a little better and soon ceased to have any trouble whatever, thus during the second year she did not present herself for treatment.

Early in the third year she began once again to complain of pain and tenderness. She now returned to the Out-Door Department of the hospital where treatment was resumed.

An X-ray taken in September, 1919, three years after the onset of her trouble, showed marked erosion of the anterior inferior portion of the astragalus. A Wassermann was negative.

In October, 1919, it was decided that as the patient had been suffering from tuberculosis of the foot, probably since 1916, and as she had received all ordinary treatment without benefit, it would be advisable to amputate her foot.

The result of the examination made at this time is recorded. It states that there was swelling about the left ankle. There was pain on the slightest movement. There was tenderness especially in the position just posterior to the external malleolus. The skin was not red. Muscular spasm was present.

A student: Have we not often heard you say that the treatment of tuberculosis of a joint is by rest, both local and general, by fresh air and a suitable diet? If so, why should you have recommended amputation in the case of this patient?

The clinician: While I have always agreed that the treatment of tuberculosis of a joint is by rest, fresh

air, diet and all other simple means at our disposal, I do not think that this form of treatment should be carried on indefinitely if the patient is not improving under it.

Tuberculosis is Never Cured; It is Only Arrested

I think that it is most important that we should realize that tuberculosis is never cured, that it is only arrested. If we keep this before us we realize that a patient who has once suffered from tuberculosis of a joint is always prone to a recurrence of the disease in the joint.

It is, then, simply a case of relative value. If it is possible to get arrest of the disease and a useful joint in a reasonable time by non-operative methods I feel that such should be our aim, although I realize that a useful joint may be useful only for a limited time in that exacerbation may interfere with its usefulness because as we have said, the disease has simply been arrested.

It is, really, a question of results and what the patient must suffer to get these results. For instance, if a child has tuberculosis of the ankle the surgeon may place that ankle in a position of local rest by means of plaster or a brace. The child is incapacitated for two or three years while this treatment is being carried out. At the end of this time the child may have a fairly useful foot. The sacrifice has not been great because nothing really depends upon the child's being 100 degrees capable and if in later years we get an exacerbation, it can be dealt with, but, if on the other hand, an adult comes with tuberculosis of the foot, can that adult devote two or three years of what should be the productive period of life to the treatment of the disease, especially when it is appreciated that nothing can be promised except that at the end of treatment the disease will be arrested and an exacerbation might occur at any time during later years.

It seems to me that this is an important point. If our patient suffers from tuberculosis of the vertebræ the patient's spine may be maintained in a position of immobility even after arrest has been secured and this immobility will tend to prevent exacerbations of the disease, but how can we guard against exacerbations in an ankle which has once been affected with tuberculosis?

For the reason stated above I cannot help feeling that there are many cases where amputation of the foot is to be preferred to expectant treatment.

Amputation the Best Treatment

In the case of C. B. which we are considering, as she was 31 years of age and had suffered from an increasing tuberculous infection of her foot for three years, it was decided that amputation was the best treatment. Her leg was then amputated about nine inches below the knee on November 8th, 1919.

A student: Why did you amputate so high up? Could you not have amputated at the junction of the middle and lower thirds?

The clinician: In as far as amputating at the junction of the middle and lower thirds is concerned, experience has demonstrated that one cannot hope for good results in this position. The circulation is poor. Union is apt to be bad and it is very doubtful whether an artificial leg suited to such an amputation is to be preferred to one suited to an amputation performed about eight or nine inches *below* the knee joint, because a stump of this length seems to be quite sufficient for the function possible when using an artificial extremity.

You have asked why I did not use a Syme's operation. This operation, as you know, is, practically speaking, through the ankle joint, thus if the soft parts about the heel are affected, a Syme's amputation is contra-indicated, as these are used for the flap in this operation.

Performed a Syme's Amputation

Sometimes, however, one is able to use this operation. A patient of about forty years of age came to me from the country not many months ago. Her history was that she had suffered since her early childhood from tuberculosis of the forepart of the foot with a sinus which had been discharging for years.

Examination demonstrated that only the small bones of the foot were affected. The ankle was free from disease and there was nothing to show that the soft parts about the heel were diseased. In this case I performed a Syme's amputation but I performed this with great care in that I operated in two stages, adopting, indeed, the method of the Lahore Indian Medical Service Hospital. I amputated the foot as ordinarily advised in Syme's operation, but did not remove the lower end of the fibula and tibia during the first seance, but, rather, packed the wound with gauze soaked in a solution of flavin for a week. After this time I removed my flavin soaked gauze, examined the flaps, and finding that they seemed clean and unaffected, completed my operation in the ordinary way.

A student: Why did you perform your Syme's operation in two stages? Did you not trust your judgment that the soft parts about the heel were not affected by tuberculosis?

The clinician: Do you not think that the tubercle bacilli may be lurking in them and that because of an operation the circulation may be so disturbed that the organism may become more virulent or the resistance in the tissues less strong and the tuberculous infection become manifest?

In the patient whom I have just mentioned we had a very good result and I felt that the extra care, and the precautions used had not been in vain.

Conclusions

In surgery, perhaps as in all the responsible positions of life, judgment should dictate our actions. In some cases of tuberculosis of the foot we may treat by expectant measures. *In others it is wise to amputate.* In some we must amputate high up. In others a Syme's operation is all that is necessary. The

amputation suggested through the leg and the amputation of Mr. Syme are the two operative measures which should be considered when operation is indicated. Amputations of the fore part of the foot and excisions are of no avail. *The practice of these is only causing delay and increased suffering.*

Medical Diathermy *

Gives Technic That Is Safe and Effective

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Following Nature

Diathermy is heat. And heat is essential to life, to health, to function. Nature cures no disease, repairs no injuries, repulses no invading enemy, without an increase in the production of heat. There is a natural basis for the therapeutic use of diathermy.
—Editors.

Diathermy in Hypertension

BEFORE treating a case of high blood pressure with diathermy one should ascertain the cause of the hypertension. If it is a compensatory phenomenon, no attempt should be made to reduce it. In this case treatment should be directed to the renal, hepatic, cardiac, pelvic or other disease of which it is a compensation. The author has reduced many cases of hypertension—190 to 240 mm Hg.—by first treating the constipation and mucous colitis which was the source of the toxemia. In these cases after the bowel is cleared of debris and entero-toxins, diathermy may be employed—general diathermy by means of the condenser couch or chair, or better still, local diathermy through the abdomen. In general diathermy use 400 to 800 milliamperes of current during a period of 15 to 25 minutes. In local diathermy use large electrodes and pass a slowly increasing current of 500 to 2,000 milliamperes during a period of 20 to 30 minutes.

The blood pressure will usually be found to be reduced after this treatment from 10 to 30 mm Hg. The skin will be warm and often bathed in perspiration, and the body temperature as indicated by a thermometer in the mouth will be increased from one-half to one and one-half degrees. What takes place during the treatment? The peripheal vessels are dilated by relaxation of muscular spasm. The relief from engorgement of internal organs is shown by profuse diaphoresis and diuresis with increase in the amount of solids in the urine. There is an increase in oxidation and elimination of toxic materials. The character of the pulse is changed. It is soft and more regular. Improved metabolism is soon shown by increase in the physical and mental strength of the patient.

Dr. de Kraft maintains that "moderate doses of high-frequency currents applied by the method of autocondensation (general diathermy) will effect a reduction in blood-pressure in all cases of simple hypertension."

Diathermy in Hypotension

There is a class of cases that gives the physician even more trouble than the high blood-pressure cases. These complain of chilly feelings, have cold hands and feet, no appetite, insomnia, mental depression, no energy, lack of physical strength. They have low blood-pressure and subnormal temperature. For these cases diathermy is a very rational treatment, *per se*, or as an adjuvant to endocrine, diet, or drug therapy. Diathermy gives the thermogenic mechanism a rest, by supplying the heat which the body cannot produce, and thus permits it to resume normal functioning. Daily treatments of fifteen minutes to one-half hour should be given on the condenser chair or couch. Use 500 to 800 milliamperes of current. At first, special care must be taken not to give too vigorous a treatment or the patient may faint. The oral temperature should be taken before and again after treatment. There should be an increase of .5 to 1.5 degrees. When the patient retains the increase in temperature until the next day, treatments may be given on alternate days.

Diathermy in Angina Pectoris

Diathermy through the heart in angina pectoris is most efficacious for the relief of arterial spasm. A large indifferent electrode is placed under the back behind the heart. A smaller electrode is placed on the chest over the cardiac area. A mild current of 300 to 800 milliamperes is passed. In a few minutes all oppression, all pain, all feeling of anguish

*Read before the Tenth Annual Meeting of the Amer. Asso. for Medico-Physical Research, on Sept. 27, 1921.

ceases. Nagelschmidt says that if this prompt therapeutic effect is not secured, "we may always expect an aneurism or grave myocarditis." A portable diathermy apparatus may be carried to the bedside if a patient is too ill to come to the office.

Diathermy in Myocarditis

The author uses local diathermy through the heart on alternate days in the treatment of myocarditis. Cases with weak heart muscle, skipping pulse, exhaustion after slight exertion, are in a few weeks of diathermy treatment made strong, with normal muscle tone to the heart, and have a full, even pulse. The electrodes should be placed as in angina pectoris, and a current of 300 to 800 milliamperes passed for a period of twenty minutes. The benefits of diathermy treatments in cardiac conditions may last for months or even years. In some cases very few treatments are needed; in others, treatments have to be prolonged for months.

Local Diathermy in Circulatory Disturbances of the Brain

Drs. Titus and de Kraft, in a paper read before the American Electrotherapeutic Association in 1920, recommended diathermy of the brain in some forms of chronic headaches, especially when due to syphilitic lesions, in conditions occurring in people beyond middle life variously described as cerebral endarteritis, nervous breakdown, cerebral neurasthenia, and in certain cases of epilepsy. Small electrodes about 2 by 3½ inches are used. One is placed on the forehead above the eyes, the other at the back of the neck against the occiput. The electrodes are held in place by compresses and a folded triangular bandage. Dr. Titus uses moist kaolin pads between the skin and the electrodes. A current of 200 to 300 milliamperes is allowed to pass for a period of twenty minutes. The author has had most excellent success with this method, not only in the treatment of chronic headaches, but also in the treatment of early paresis. Saberton has noted that this treatment causes the disappearance of the Argyll-Robertson pupil. Drs. Titus and de Kraft follow cerebral diathermy with cerebral galvanism. [The physician inexperienced in technic must be most careful in passing an electric current through the brain.—Editor.]

Local Diathermy in the Treatment of Internal Hemorrhoids

Diathermy relieves the pain of internal hemorrhoids. The patient should lie on the side with the legs well drawn up, the upper one farther than the lower. A large indifferent electrode is placed on the hip, the sacral region, or the abdomen. A rectal electrode warmed and lubricated is inserted with gentle pressure while the patient bears down. The uninsulated portion of the electrode should be passed well beyond the sphincters. A current of 800 to 1,500 milliamperes may be permitted to flow for ten minutes daily. The electrode should be allowed a few minutes to cool before being withdrawn. The same treatment may be used for an inflamed or an enlarged prostate.

Diathermy in Diseases of the Nervous System

The author has had most excellent results in treating paralyses due to pathological changes in the spinal cord. When we consider the pathology of the cord in certain forms of paralysis it is quite easy to understand why a general heating of the cord will relieve the condition. The heating causes increased circulation, and with increased circulation stasis disappears, fibrosis is removed, there is better cell metabolism, cell regeneration, and the resumption of normal cell function.

Local Diathermy in Ataxia

In the treatment of cases of shuffling, uncertain gait, cases with a pronounced Rhomberg sway, and the loss of plantar sensation, the author has found diathermy an efficient remedy. A long narrow electrode (3½ by 8 to 10 inches is placed over the dorsal and lumbar spine) and a large indifferent electrode is placed under the abdomen. A current of 1,000 to 2,500 milliamperes is allowed to pass for a period of 30 to 40 minutes. The treatments are given three times a week over a period of six weeks to six months. This diathermy treatment may in certain cases alternate with a diathermy treatment along the course of the sciatic nerves. In many of these cases the diathermy treatment is supplemented by one of galvanism or of faradism.

Local Diathermy in Infantile Paralysis

Dr. A. C. Geyser reports a number of cases of infantile paralysis, one of them of 17 years' duration which were greatly benefited by diathermy. The one thing necessary in these cases is perseverance. The treatments should be given daily for months. Between the treatments the limb must be kept warm by suitable clothing. Diathermy should be applied "directly and primarily over the site of the spinal lesion and incidently throughout the entire paralyzed region."

Diathermy in Neuritis and Neuralgia

It is easy to understand why diathermy gives such wonderful results in neuritis. The heating causes increased circulation, and with the increased circulation, stasis in the region of the nerve disappears and with it the pain caused by it. A temporary increase in pain is often noted when treating a nerve about which there is a stasis or when treating a joint in which there is stasis and fibrosis. This temporary increase is a welcome symptom, as it warrants a favorable prognosis. In cases of sciatica accompanying lumbago large electrodes should be used, one over the lumbar and sacral regions and one under the abdomen. A current of 800 to 2,000 milliamperes is passed for a period of 30 to 40 minutes. In cases where great pain is experienced along the course of the sciatic nerve, this treatment may be supplemented by placing a large indifferent electrode over the lum-

bar sacral region, and a roller or condenser electrode applied with firm pressure along the course of the nerve.

A most distressing neuralgia for which drugs and surgery have failed to give satisfactory relief is chronic trigeminal neuralgia or tic douleureux. Dr. A. C. Geyser recommends diathermy. An active electrode about the size of a silver dollar is placed just in front of the ear on the affected side. The face lies on a large indifferent electrode. A current of 200 to 400 milliamperes is passed. The comfort of the patient determines the amount of current used. The treatment is repeated daily. The author has thus treated two cases successfully. Another method of applying diathermy in tic douleureux is for the physician to throw himself into the circuit by holding the active electrode in one hand and applying the fingers of the other hand after the manner of Dr. Owen to the affected area. In this way the amount of heat is controlled to a nicety.

Local Diathermy in Other Painful Conditions

Lumbago, a painful inflammation of the fascia and fascial sheaths of the muscles of the lumbar region, yields like magic to local diathermy. Have the patient lie on pillows on a couch or table. Place under the abdomen a large indifferent electrode, and an active electrode, about 5 by 7 inches, over the lumbar region. Hold the latter in place by sand bags and small blankets, the ends of which are tucked under the pillows. Cover the patient with a blanket. When all is ready turn on a current of 500 milliamperes. Every one to three minutes increase the current 300 to 500 milliamperes until a maximum of 2 to 2½ amperes is reached. Allow this current to flow for 20 minutes and then gradually reduce the current during a like period. The author follows this diathermy treatment with ten minutes of faradic rhythmic massage of the lumbar muscles. The first treatment often gives relief from pain. A few treatments relieve all symptoms. A similar treatment is used by the author in treating fibrocitis of the trapezius.

Diathermy in the Treatment of Lesions of the Bones and Joints

For case histories and technic in the treatment of stiff and painful joints by diathermy, the members of the Association are referred to papers presented by the author in 1920 at the annual meetings of the American Electrotherapeutic Association and of the Central Society of Physical Therapeutists. Since the presentation of these papers the author has treated three cases of fractures of bones of the foot with excellent results. In one case with three bones fractured, a plaster cast was applied. Before applying the cast, flexible electrodes of proper size and shape were applied and held in place by adhesive strips. These electrodes were connected to small strips of tin which passed through the plaster cast. Treatments of 20 minutes, 400 to 500 milliamperes, were given daily for 20 days. Result: when cast was removed a week later there was found an abundant formation of callus, and there was no limitation of motion due to fixation. The patient suffered practically no pain after the first diathermy treatment.

Dr. A. B. Hirsh reports in the September, 1921, number of the *American Journal of Electrotherapeutics and Radiology,* a number of cases of bone lesions which were successfully treated at Fox Halls, Staten Island, by diathermy. Among the cases reported were a number of delayed union and others complicated by infection. Dr. Hirsh concludes: "Based on the now undisputed fact that diathermy brings about a marked enlargement locally of existing blood vessels, if not also in actual growth in their number, and judging from the cases . . . quoted, it is reasonable to anticipate more and more increase in bone deposit for cases of delayed union or bone graft; removal of osteomyelitis, where present; cessation of infection, and closure of the cavity by granulation."

The author believes that the time is past when it is necessary for a patient to suffer for days from a bone or joint trauma, when it is necessary to expect a fibrous ankylosis as the sequelæ of trauma, of articular rheumatism or of dental infection. Diathermy is destined to become quite as important to the surgeon and orthopedist as are splints and bandages. The layman now demands the X-ray as a confirmatory diagnosis. He will soon demand diathermy treatments in bone and joint lesions.

Diathermy in Infections of the Respiratory System

Diathermy is one of the most valuable aids in the treatment of acute and chronic infections of the respiratory system. A number of prominent electrotherapeutists have reported cases of pneumonia, bronchitis, empyema, and pleural adhesions in which diathermy was used with gratifying results.

Dr. Geyser read before this Association last year an "Address on Phthisis Pulmonalis," in which he recommended diathermy as the physiological method for the local treatment of tuberculosis. It is the only way in which the amount of blood circulating through the lung tissue can be increased. The entire pulmonary area is heated through and through, the pulmonary capillary system is dilated with the result of diapedesis of the leucocytes. This leads to the formation of giant cells around the bacilli and of wandering cells around the giant cells, thus completing nature's method of tubercle formation. Oyster and clam broth are given to furnish the necessary lime salts for tubercle formation. And when the hemoglobin percentage is below 80 per cent., intravenous injections of cacodylate of iron are given twice weekly.

The diathermy treatments are given at least every other day. Large flexible electrodes are placed on the posterior and anterior surfaces of the chest, and the current is turned on and gradually increased to 1,500 milliamperes. The duration of treatment is from 30 to 45 minutes. After the second week if

there are no counter-indications the current strength may be increased to 2,000 or 2,500 milliamperes. The diathermy treatment is followed by sponging the parts with cold water and allowing the patient to rest in a recumbent position for an hour. Dr. Geyser reports that incipient cases show 100 per cent. cures, that from 60 to 80 per cent. of second-stage cases become closed cases, and that third-stage cases are made more comfortable and their lives prolonged. In cases with a history of hemorrhage, diathermy must be used very guardedly. Only mild currents for short periods can be used the first few weeks.

Diathermy in Infections of the Genito-Urinary Tract

Nagelschmidt used diathermy for the successful treatment of gonorrheal urethritis. A sound passed into the urethra is used as the active electrode. A large plate is placed on the abdomen for the indifferent electrode. Cumberbatch reports successful treatment of three cases of gonorrheal urethritis by diathermy.

Cumberbatch devised a method for the treatment of gonorrheal cervicitis. "The vagina is kept patent by a tubular glass speculum. As an active electrode, a copper rod is used. It is inserted into the canal of the cervix. Instead of the rod a metal disk electrode, ½ to ¾ inch in diameter, may be pressed against the cervix, with a felt disk of rather larger size, soaked in salt solution intervening. . . . The indifferent electrode is placed on the back or abdomen." Treatments were given twice a week and the duration of treatment was 10 minutes. The success of diathermy as a treatment in gonorrheal infections is due to the fact that the gonococci cannot live in a temperature above 101 degrees. The author has had no experience in treating gonorrheal infections with diathermy.

Several physicians have reported good success in the early treatment of gonorrheal infections of joints with diathermy. If the infection has progressed to a point where permanent structural changes have taken place, such as the destruction of inter-articular cartilages, diathermy cannot be expected to yield good results.

Diathermy in Nephritis

The author has had most excellent results with diathermy in cases of nephritis. Cases showing large amounts of albumin and casts in the urine with more or less pronounced symptoms of uremic poisoning have cleared up under diathermy through the region of the kidneys.

Diathermy in Malignancy

This is too big a subject to receive proper attention in this paper. Dr. Geyser presented a paper before this Association last year on "Diathermia and the Physiological Treatment of Cancer." He maintains that the important thing in the treatment of cancer is so to change the nature of the growth that it will produce less and less toxin. Cancer growths are firmer, harder, and less vascular than normal tissue. For this reason "the malignant mass is always of a higher temperature after applying diathermy than the surrounding normal tissues." Dr. Geyser gives treatments daily or on alternate days for sixty minutes with the current turned on to the point of tolerance. He sums up the result as follows: "Cachexia is prevented or removed; the tumor mass undergoes a retrograde metaphormosis; individual nodules soften and they become smaller and disappear; pain ceases entirely; discharges lessen and lose their offensive odor. . . . The patient gains weight and appears to all intents and purposes normal."

The author wishes to offer the caution that great care should be exercised in using diathermy in the treatment of cancer, for it must be remembered that low degrees of heat stimulate the growth of cells. Diathermy does give new life to the sick cells about the cancer which are bathed in what Geyser calls "cancer juice."

At the last meeting of the American Electrotherapeutic Association two papers were read which will have a considerable bearing on the treatment of cancer by X-rays. Dr. Sampson has demonstrated that if the patient is subjected to a course of exposures to actinic rays until there is a good tanning of the skin, an X-ray dermititis is impossible, no matter what dose of X-ray is given. And Dr. de Kraft gave a preliminary report on the use of diathermy as a means of localizing and increasing the efficiency of deep X-ray therapy. He says: "Diathermy seems to render tissues more sensitive to X-rays. . . . This activating use of diathermy is possible only when it directly precedes the X-ray, and it is necessary to heat the part thoroughly and extensively, but short of actual damage to the tissues." He believes that the beneficial effects of this combined method of treating malignant growths is due to the fact that an active hyperemia favors the migratory excursions of the wandering ions of the tissues, and that this in turn favors the ionization effect of the X-ray. Moreover, diathermy revitalizes the sick impoverished cells bathed in the pathologic juices surrounding the cancer tumor, and increases their resistance to the destructive action of the X-rays. Dr de Kraft reports a case of sarcoma of the femur which he treated over ten years ago with combined diathermy and X-ray applications. The tumor was absorbed and the patient restored to health. The patient is still in good health.

Conclusion

To recapitulate: medical diathermy is a therapeutic means of increasing the general body temperature or any portion of the same within physiological limits by the passage through it of a very high-frequency current. Its indications are many. Yet, it is not a cure-all. In some cases it is the indicated remedy. In

others it is a most excellent adjuvant or antecedent to other therapeutic measures; for we must ever remember that diathermy is heat and heat only. Heat is essential to life, to health, to function, nature cures no diseases, repairs no injuries, repulses no invading enemy without an increase in the production of heat. This increase is called fever or inflammation. Diathermy furnishes the needed heat for nature's processes without taxing the heat regulating forces. And it furnishes it, *when* it is wanted and *where* it is wanted. Diathermy is truly a wonderful handmaiden to medicine.

Concluding paper on "Diathermy in the Treatment of Lesions of Bones and Joints" will appear in next issue.

Literature

Many articles on diathermy have appeared in the medical journals and in the proceedings of medical socities during the past three years. These are too numerous to enumerate here.

Among the earlier books should be mentioned:

Denoyes, Le Docteur, J. "Les Courantes de haute frequencie. Proprietes physiques, physiologiques et therapeutiques. Paris, 1902."

Kowarschik, Dr. Joseph. "Die Diathermie. Berlin, 1913."

Nagelschmidt, Dr. Franz. "Lehrbuch der Diathermie fuer Artze und Studierende. Berlin, 1913."

Within the past year two books on Diathermy have been published in London.

Cumberbatch, Elkin P., M.A., M.B., M.R.C.P. "Diathermy, Its Production and Uses in Medicine and Surgery."

Saberton, Dr. Claude. "Diathermy in Medical and Surgical Practice." The latter has an excellent bibliography on Diathermy in the appendix.

A book by Bucky has appeared in German. This is being translated by Dr. Geyser and will soon be published with additions by Dr. Geyser.

Three books which have appeared within the last two years should be mentioned because each contains a valuable chapter on Diathermy.

Jacoby, George W., M.D., and Jacoby, J. Ralph, A.B., M.D. "Electricity in Medicine." Philadelphia, 1919.

Humphries, Francis Howard, M.D. "Electro-therapeutics for Practitioners." London, 1921.

Grover, Burton B., M.D. "Hand-book of Electro-therapeutics." Philadelphia, 1921.

Oxygen Inflations of Peritoneal Cavity in Tuberculous Exudative Peritonitis

Stein (*J. A. M. A.*, March 14, 1922) reports what he believes to be the first case to be reported in the United States of an apparent cure of tuberculous peritonitis of the exudative type by the sole means of therapeutic pneumoperitoneum. The patient was a woman, age 32, who five months after a laparotomy manifested acute symptoms of tuberculous exudative peritonitis. A roentgenogram was taken following artificial pneumoperitoneum. Roentgenographically, the case presented evidence of tuberculous peritonitis. The oxygen which was injected at the time of the pneumoperitoneal roentgen-ray examination was not withdrawn. Thirty-six hours later there was still some oxygen present. The whole procedure did not cause the patient the slightest discomfort, and the improvement in her general condition after this single inflation was most marked. Three additional injections were made, two, four and six days later. The patient, apparently, made a complete recovery.

Observation

Faulty Shoes and the Trouble They Cause

By Charles Cross, M.D.,
Fifth Avenue and California Street,
San Francisco.

FOLLOWING THE STUDY of anatomy, accumulation of knowledge about feet and foot ailments is continued by cultivating the power of observation.

"As men after all
Are only boys grown tall."

Rule IV, Sanitary Service, Boy Scouts' Training Camp, Cazadero, California, covers the case very well: "Cultivate the power of observation and make your head save your heels." Therefore: look at the feet you meet as you greet, on the street. This tells how to begin, and just where to find ample clinical material, to cultivate the quality of observation.

Cultivate Power of Observation

Just coming in from an early morning scouting tour of observation, I will relate some of the things I saw. They are just what can be seen any day, on almost any street, and in any city or town.

Mentioning names, by way of an introduction, may enable the reader to more readily recognize some of the feet we meet.

Stories Shoes Tell

To be seen in the morning, probably on the way to work, is Peggy Pinch Toe. It is easy to see "the price she paid"—not for her shoes, nor even for her stockings, nor any of her garments, or her troubles, but for the *grouch* she will have about 5 P. M.

Then there is Birdie Short Shoes. Birdie weighs about eighteen stone, and looks the part. She wears shoes for weight about eight stone less. If she works in a store, and stands at her work, I will bet she is never late at quitting time, and God help the customers who appear before Birdie after 4 P. M.

There goes Willie Worn Heel, heels worn down and half as thick on the outer side as on the inner. Also Willie's brother, smaller and younger, right heel turning to the outside, left heel to the inside. Both growing up to be afflicted and inefficient.

Now comes Hortense Wabbly Foot. Watch the wabble action of foot and ankle, and the wasted leg energy, generators of reduced efficiency. At each step her high-heeled majesty takes, she adds to her inefficiency. She will not feel well at 3 P. M.

There goes Ben Slow Foot, probably crippled for

life. After him comes Sarah Grind Heel. Sarah is on the way to being crippled for life.

Here comes Dowager Antique Society-Bud. The Dowager is out on a shopping tour. She walks on her heels. Why doesn't she go over on the A. M. A. (Anterior Metatarsal Area) and give her step the elasticity of jazz?

There is Mary Wise One. Mary thinks she knows much about shoes, but today she is limping. She has on new shoes. From appearances, they have flexible shanks. Trouble is brewing in the E. L. A. (External Longitudinal Arch). The distress seems to extend up the entire leg and thigh. I wonder why Mary limps?

Coming across the way is Mrs. R. Lee Bird and her five-year-old daughter. They are out early. Mother's feet are badly pinched and she is raising a fine crop of corns and bunions. But her feet are not interesting this morning. It is the child's feet. Oh, yes, the child has other shoes. They look the part of many pairs of shoes. But the feet, and the manner of the child's walk, are not in keeping with the rest of the make-up. The heels both turn out, the ankles wabble, and walking is difficult. That child may be suffering from retarded bone development. She is on the way to be crippled for life if those feet do not get something besides new shoes and shoe clerk treatment.

Comment

And thus the processions winds painfully on. Each pair of feet tells a story, and each face registers age-lines caused by foot ailments.

The symptoms observed in the cases mentioned are a'most pathognomonic of the ailments which cause them. A little practice in observing feet on the street and ability to make sight diagnosis is readily acquired.

Now continuing the "observatory" part of this instruction, if the student cannot do any better, he can begin closer inspection on his own feet. This is the one time that studying anatomy in a swivel chair, or in a drawing room, is recommended.

In the next Footlights on the Feet, No. 4, another step of interest will be taken. Approaching the subject in a manner never before attempted, and bringing under scientific consideration a humane service the world calls for, every physician and surgeon can aid in this work.

The prevention of foot ailments is to the human race one of the most important and valuable prophylactic measures ever undertaken by medical graduates.



A real foot inspection by Dr. Charles Cross and staff at Boy Scouts Training Camp, Cazadero, California.

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practitioner must be recognised. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

The Absence of Treatment in Institutional Work

ADVISORY to a commission on lunacy, in a case in which recovery from lethargic encephalitis was incomplete, leaving a psychosis, we were struck by the fact that the sufferer, despite the fact that she had spent all her money in various institutions, really had received almost no *definite treatment*. Frequently we encounter cases of more or less advanced tuberculosis that have "graduated" from special institutions for the treatment of tuberculosis, and we discover complications that have been allowed to develop almost without any sustained treatment thereof. Five years ago we appeared as an expert for the commonwealth in a murder trial in which the defense set up an insanity plea and sustained it, we may add with our help. The boy was committed to an asylum for the insane. Today we met his father, who complains bitterly that while the boy is well taken care of and likes the institution, he has received almost none but custodial care, and he feels that both medical and surgical treatment was, and is, needed in the case, a lay opinion with which we agree. Such complaints are common. We have much contact with penal institutions and are often grieved over the medical and surgical neglect of prisoners. Correctional institutions are better, but even in them there is an unjustified neglect of definite treatment in many cases.

Why

There are institutional and professional reasons for this neglect of treatment. First, the institutional ones. An institution gradually attains to a factory point of view; it is standardized, dehumanized, card-indexed, and managed more from the office than from the ward, and the result is the stressing of material rather than the human angle. Where boards of management are politically selected the matter is worse than if free selection is practiced, and it must be noted in passing that ecclesiastical and organization politics, when it rules an institution, possesses all of the evils of state and municipal politics and is even more narrow and less subject to review. Another factor is that of shortage of money and the small budget provided for professional service, resulting in an indifferent and numerically inadequate personnel. It is common observation to find in institutions an up-to-date laundry and an out-of-date operating room, oriental rugs and art features in the reception and Board rooms and a poorly stocked drug room, beautiful grounds and a fine garage and a very defective treatment room, every possible office appliance and instruments that ought to be junked out in the wards and nurses' offices.

Professionally, there is, perhaps, more therapeutic nihilism in institutions than is found outside; this is a big factor in the neglect of treatment. Then, too, entirely too much detail is left to young internes and advanced students; they lack in initiative and get into ruts and are not sufficiently supervised. Worse yet, the bulk of the work, even the treatment, is too commonly left to nurses. Nurses are very useful as nurses, but they are not doctors; many of them have complained to us that they are up against it and are doing the best they can and often feel that their patients should have technical care they are not receiving. Marble walls, clean sheets, elaborate bedside charts, never-followed-up laboratory reports by technicians who never see the patients, and even a good dietician, *do not cure the patients;* cure requires the constant and everlasting attention of a very human and really interested physician or surgeon actually at the bedside.

Doctor, Your Duty!

Doctor General Practitioner, when you send your car to the garage for repairs, do you leave it all to the garage man and his assistants? You certainly do not. Then why, when you send one of your patients to a hospital or other institution, do you forget the case and keep out?

Perhaps you feel that your presence will be resented. What if it is! There is something wrong in an institution or hospital that resents a follow-up by the medical attendant of the admitted patient. There is no occasion to be hypercritical or officious in your attitude when visiting your patient in the ward of an institution in which you are not a staff

member; but the institutional physician owes the same courtesy to you as a consultant that he is in duty bound to show to a consultant in outside practice.

Perhaps some of the faults encountered in institutional work, more especially the fault of neglect of definite treatment, will be promptly corrected if the institutions know that attending physicians are apt to step in at any time and go over the cases.

The Other Side

The harassed medical superintendent of a hospital or institution is a very busy man. He knows the lapses and defects; he runs the risk of being "fired" many a time when he "fusses it out" with cheeseparing trustees, and, like as not, he will be delighted if you get acquainted with him and his work and help him to get things changed. He wants a little outside pressure to be exercised; it lets in daylight and fresh air. Perhaps, if you are tactful, fraternal and courteous, you can help him and the patients you send in. We general practitioners are well aware of two needs in the country at present. The first is the imperative need, in governmental and public affairs, that business be placed in the hands of business men; and the other imperative need is to place medical affairs in the hands of doctors. We have too many amateurs and bureaucrats in charge in both directions. Now that medicine and health affairs have become so much of a public concern, it is up to the doctors—up to you—to get out of the individualistic shell and mix in. We have pointed out one way to do it.—T. S. B.

Actinotherapy in General Practice

F. J. Kern (in the *Ohio State Medical Journal*), concludes:

"1. Actinotherapy (actinic rays—artificial sunlight) is an effective mode of treating many chronic and obscure cases which the general practitioner heretofore had to refer to the specialist."

"2. Ultraviolet rays are antiseptic, bactericidal, markedly analgesic, nerve sedative, and greatly assist in promoting general metabolism.

"3. Actinotherapy is one of the best treatments in early stages of tuberculosis wherever found, and far superior to natural sunlight on account of its applicability at all places and in all climates. It is of special merit to patients who are unable to go to sanitoria and who wish to be with their families during the treatment.

"4. In simple neuralgia and neuritis the actinic rays are almost specific, giving, in many cases, immediate relief.

"5. Severe reactions and prolonged treatment are often necessary to obtain satisfactory results in some chronic cases.

"6. Only the men who use this modality persistently and conscientiously know its real value."

Bleeding From the Rectum: Its Significance and Treatment

Joseph F. Saphir (Amer. Proctologic Society, June 3, 1921) said that blood passed through the anus from any part of the gastro-intestinal tract is a most alarming symptom. The nearer the source of the bleeding is to the anus the brighter and fresher the blood is, and the further away, the darker and more clotted it is. The general appearance of the patient is often an index of the importance and severity of the bleeding. He described as sources, internal hemorrhoids, ruptured external hemorrhoids, fissures and ulcers, prolapse of the rectum, polypi, multiple ademonata, intussusception of the sigmoid, chancres, chancroids, and condylomata, villous growths, systemic diseases as malaria, scurvy, tuberculosis, etc., hemorrhagic proctitis and carcinoma.

He then considered primary and secondary operative hemorrhage, describing how such accidents occur, how they may be avoided, and how treated; and laid particular stress on the danger and deceptive character of concealed secondary hemorrhage, the possible need of hypodermoclysis or transfusions in its treatment.

He said that bleeding from the rectum is so common that many patients neglect it so long before consulting a physician, and the physicians when consulted, neglect adequate examination so long, that serious hemorrhage and profound anemia often result before proper attention is given to it. For similar reasons carcinoma is often overlooked till it is too late. And he concluded that the fault lies in the lack of proper teaching of digital and proctoscopic examination, so that students are sent out from medical schools unprepared to interpret the importance of significance of rectal bleeding, and unprepared to give the sufferers the proper care and treatment.

Effect of Organ Extracts on Blood Pressure

According to Roger in *Presse Médicale*, all tissues and organs yield substances which act on the heart and blood vessels, those from the adrenals, thyroid and pituitary having, in particular, been studied. The action varies according to whether the substance has been extracted by trituration and maceration in salt solution, or obtained by antolysis. For example, lung extract obtained by maceration lowers the blood pressure owing to the presence of colloids in the filtrate; but lung extract obtained by antolysis raises the blood pressure.

A more dependable method than antolysis is extracvary according to which of these groups of agents is tion by acids or alkalies. But here, also, the effects used.

Health Department and the Medical Profession

Donald D. Shira (in *The Ohio State Medical Journal*), says that an ideal system for solving the public health problem and for delivering the maximum of service to any community can only be perfected by the closest kind of co-operation between the medical profession and public health agencies. The consummation of this union can only be accomplished by a health commissioner whose relationship to the physicians is determined not by mandates spread upon the statute books, but by broad sympathies with the aspirations and ideals of the medical profession. Because, after all, this group is the keystone in the arch of public health work, and public health work must co-operate with the physicians in the community to their advantage and betterment as well as the advantage of the people in general.

Sluggish Bowel Action in Childhood

is usually due to errors in feeding. Subjecting these fundamentals to the customary careful correction,

INTEROL

may be adininistered coincidentally to relieve the immediate condition.

Dosage in Children

Begin with a half to one teaspoonful, 3 times a day before meals. Increase or decrease dose until one good movement is obtained daily. Then gradually decrease to the point where a small dose at bedtime will maintain this result.

This pure, tasteless and odorless mineral oil—notably free from the greasiness common to such products—has proved of exceptional value as a safe and dependable means of moving the bowels of young children, and this without the griping, straining and after-constipation by which the use of castor oil and other drastic cathartics is so frequently attended.

The constantly growing number of physicians who prefer INTEROL to any other media in the routine management of constipation in early life is its own best endorsement.

Sample and Interol brochure on request

Allied Drug and Chemical Corporation
2413 Third Ave. **New York City**

Manufacturers of
ORASEPTINE—Internal and External Antiseptic, Wash, Spray and Douche.
ADACCO SALT—Effervescent Saline Laxative and Uric Acid Solvent.
VELOGEN—"The Doctor's Hand-maid and Household Emollient."

DEFINITE DIURETIC DEPENDABILITY

combined with strengthening and regulating action upon the heart, thus securing resorption of effused fluid, is brought about and maintained by

ANASARCIN TABLETS

which exert the valuable physiological action of squill, oxydendron and sambucus, without however producing stomachic or renal irritation or circulatory disturbance. Action is prompt, efficient, prolonged.

ANASARCIN is invaluable in ASCITES, ANASCARA, CARIAC VALVULAR LESIONS, ALBUMINURIA OF PREGNANCY, POST-SCARLATINAL NEPHRITIS, CHRONIC BRIGHT'S DISEASE; also to prevent tachycardia in EXOPHTHALMIC GOITRE, CARDIAC NEUROSIS, etc.

Sample and literature on request

THE ANASARCIN CHEMICAL CO. **Winchester, Tenn.**

Human Actinomycosis

Mattson (*Sur., Gynand Ob.*, April, 1922) conclusions are:

1. There is but one true species of micro-organism capable of producing actinomycosis in man and lower animals and this is the one isolated by Wolff and Israel and later more fully described by Wright.
2. There is no convincing clinical evidence supporting the theory that this organism is a normal inhabitant of the oral cavity and gastro-intestinal tract of man.
3. There is much clinical and biological evidence that this micro-organism has its source outside of the human body and is capable of a dual existence: first as a saprophyte in old sod soil from which it gains access to grains and grasses and through this medium or intermediary host, so to speak, it becomes capable of infecting man and lower animals.
4. In order for infection to take place two things are necessary: first, an abrasion of the tissues; second, the fungus must in some way be brought directly in contact with this abrasion.
5. Animal-to-man infection is far more common than we have been led to believe it was by earlier investigators.
6. Human actinomycosis is not a rare disease, but a disease which is often overlooked or incorrectly diagnosed.
7. Every inflammatory swelling of chronic or subacute nature with persistent and recurring sinus formation should be carefully investigated for this disease.
8. A negative smear, on first examination, does not rule out infection as the fungus, in the presence of mixed infection, is often very difficult to find.
9. The disease should always be kept in mind in every case atypical pulmonary tuberculosis and should be looked for in cases suffering with chronic purulent bronchitis or bronchiectasis.
10. Early treatment of superficial lesions are highly successful. Internal infections are extremely fatal and hopeless.

Treatment of Entero-Colitis in Infancy

The indications for treatment, according to W. W. Harper *(Southern Medical Journal)* are:

1. Prompt cleaning of the intestinal canal by catharsis and enema.
2. Withdrawal of all food for 24 to 48 hours.
3. Sowing intestinal canal with virile strains of lactic acid bacilli.
4. An abundance of water by (a) Mouth; (b) Rectum; (c) Hypodermoclysis.
5. Free administration of alkalies and if acidosis threatens, the use of carbohydrates.
6. Adopting measures to prevent urinary suppression.
7. Early return to the breast or bottle.

As an initial purge, castor oil is to be preferred. A soda enema (two teaspoonfuls of soda bicarbonate to a quart of warm water) is given every six hours for the first 24 to 48 hours. All food is withdrawn at once and water forced—the minimum amount of water to equal the amount of milk taken in health. To encourage the drinking of water, it may be given as iced tea, lemonade or orangeade sweetened with saccharin, one tablet to the pint. If the baby refuses to take the fluids, or if there is marked nausea or emesis, the fluid should be supplied by hypodermoclysis, giving 6 to 8 ounces every 6 to 8 hours to an infant six months old. As soon as the castor oil is out of the stomach give a lactic acid bacillus tablet in sweetened water every two hours. These should be continued until stools are normal. As acidosis is the greatest danger in this type of infection the urine should be kept alkaline with bicarbonate of soda, or soda citrate, 5 to 10 grains every 2 hours to a child six months old. It is rarely necessary to continue the alkali longer than 48 hours. If the baby is on the breast, nursing is resumed at end of 24 to 48 hours. Carbohydrates must be given in threatened acidosis, as evidenced by acetone in the urine, cherry-red lips and hyperpnea. Toxic nephritis with impending anuria is best combated with hot baths, hot packs and warm soda flushes of the colon. For restlessness, give chloral by enema or morphine by needle. As a stimulant, atropine in fairly large doses is useful. Where the stools are large, frequent and watery, opium is often a life-saver, either paregoric by mouth, or morphine by hypo. Intestinal antiseptics and astringents are to be condemned.

The Prevalence of Free Hydrochloric Acid in Cases of Carcinoma of the Stomach

(Hartman, Harold R., *Am. J. Med. Sc.*, Feb., 1922.)

The author points out the habit we have acquired of considering achlorhydria as a diagnostic sign of carcinoma of the stomach, until at present one hesitates to make a diagnosis of carcinoma in the presence of an appreciable amount of free HCl in the gastric contents.

A study was made of the cases of gastric carcinoma occurring at the Mayo Clinic during the years 1918, 1919, 1920. During these years, there were 551 patients with gastric carcinoma and 80 patients with carcinomatous ulcer operated on. Forty-five per cent. of the cases were diagnosed ulcer, 41.25 per cent. cancer, and in 12.15 per cent. the diagnosis was suspected gastric malignancy.

The normal amount of free HCl was estimated at from 20 to 40. With regard to location, in 51.85 per cent. of pyloric lesions, achlorhydria was present. In 5.05 per cent. of pyloric lesions there was hyperacidity. In the cardiac portion, the achlorhydria was 61.54 per cent. and the hyperacid 5.12 per cent., from which it is apparent that the location of the lesion does not influence the degree of acidity. In all cases recorded, 21.95 per cent. had a hyperacidity, that is to say, hyperacidity existed in more than one case out of every five.

When the cases of gastric ulcer undergoing malignant changes are included, it is found that 26.93 per cent., or about one case out of every four, had normal or hyperacid findings. Over 42 per cent. had some free HCl present, which means that one should expect to find free HCl present in about every other case.

In a word, therefore, achlorhydria is present in a little less than one half the cases of carcinoma of the stomach, and normal or hyperacid values in more than one-fourth.

The acid values are the highest readings obtained by the fractional method.

Both syphilis and gonorrhea may cause blindness, says the United States Public Health Service, the first usually through inheritance and the second by infection of the new-born child. The latter may become blind in a single day if the attending doctor has failed to cleanse its eyes with a few drops of a one per cent solution of silver nitrate. Most states have for some time required this treatment. Six more—Idaho, Missouri, Nevada, New Mexico, Oklahoma and Texas—passed laws requiring it at their latest legislative sessions. Doctors failing to obey these laws are liable for damages if blindness to the new-born results. Insistence on the treatment will practically remove this source of blindness.

(continued one leaf over.)

Perhaps it is coffee that increases their "nervousness"

SUCCESSFUL treatment of the neurasthenic is one of the perplexing medical problems.

In most cases tension-producing drugs are contra-indicated, as generally any agent that increases tension tends to increase nerve irritability.

There is now no doubt in the minds of many careful clinicians, but that caffeine tends to raise blood pressure, increase nerve irritability, induce insomnia, disturb digestion, and predispose to under-oxidation disorders.

With these facts in mind, may it not be well to instruct your neurasthenic, and your blood tension cases to stop tea and coffee for awhile, and drink rich, delicious Instant Postum?

Postum is a pure cereal beverage with a coffee-like flavor, preferred by many former coffee-drinkers even to coffee itself; and Postum is entirely free from caffeine or drugs of any kind.

Your patients can order Postum in any first class hotel or restaurant. Also on dining cars, ocean and lake boats; and it is sold by grocers practically everywhere.

Samples of Instant Postum for individual and clinical test will be sent on request to any physician who has not received them.

Postum Cereal Company, Inc.
Battle Creek, Michigan, U. S. A.

Quinine and Urea in the Treatment of Internal Hemorrhoids

Emmet H. Terrell (Amer. Proctologic Society, June 3, 1921) stated that he has used quinine and urea hydrochloride in the treatment of selected cases of internal hemorrhoids for the past eight years. He finds it a safe and dependable remedy, but calls attention to the fact that there are a few individuals with an idiosyncrasy to quinine. Three of his patients were found to have such susceptibility, and developed annoying but not alarming symptoms following the injection of hemorrhoids with a five per cent. solution of the drug.

The remedy causes a gradual atrophy, not a sloughing, of the hemorrhoidal tumors, probably by diminishing the blood supply to the parts through pressure.

He uses the remedy only in simple, chronic, internal hemorrhoids, and advises against its use in the presence of inflammation or where there are complications demanding surgical intervention. Only about fifty per cent. of cases, he said, are well suited for this ambulatory form of treatment.

The technique used, which is rather simple, he described in detail.

He maintained that approximately one hundred per cent. of absolute cures will be obtained from the use of this remedy, if the operator will use proper discretion in selecting for treatment only such cases as are suitable.

If a dog and a child were both in eminent danger and only one could be saved, which one would you save? The Anti-Vivisection Bill saves only the animal and will cost many human lives if it is not defeated.

Book Reviews

The Physician Himself

THE PHYSICIAN HIMSELF, by D. W. Cathell, M.D., Baltimore. Published by the Author, Emerson Hotel, Baltimore, Md. Cloth, 360 pages Price, $3.00. For sale by the book trade and by the author.

When a medical student, over a third of a century ago, the reviewer read an early edition of this book, and the teachings therein saved him from many an error in tactics in later practice. Now, after its many editions have each and all served to guide the footsteps of professional men, this final or "Crowning Edition" brought out when the author is eighty-three years of age, was read and approved just as it helped us long ago. There is no senility manifest in this very philosophical and tactful work, for the author has kept up with the times and his teachings are just as potent now as they ever were.

Every physician should occasionally pause and take account of stock, seeing himself as others see him. This book, if sincerely received by the reader, holds up a mirror for him to view his conduct, his ethics, yes, his very medical soul. The book is an inspiration to better things, a stimulus to higher attainment; its lofty teachings are sound and reasonable. Would that every physician in America would read it and practice its precepts. —T. S. B.

(Book Reviews continued one leaf over.)

Pil. Cascara Compound—Robins

MILD, 1 GR.—STRONG, 4 GRS.

It is the failure of the secretory function of the bowel, together with a poor bile secretion, which, in nine cases out of ten, is responsible for constipation.

Most cathartics altogether overlook this factor and address themselves solely to a stimulation of the musculature. Some even inhibit intestinal secretion. The result is a rapid, unsatisfactory bowel movement, followed by paralytic reaction.

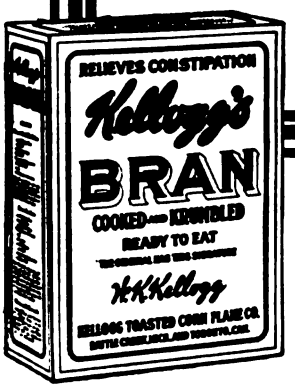
Pil. Cascara Comp. (Robins) is a rational therapeutic formula, which promotes a natural flow of secretions, which is, in turn, the physiologic stimulant of peristalsis. Thus a normal evacuation is produced, without subsequent inhibition.

Samples and descriptive literature on request

A. H. ROBINS COMPANY - - - Richmond, Virginia

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 468

Prescribe BRAN
for mild or chronic
CONSTIPATION
with confident expectations of satisfying results



Great increase has been made in the use of Kellogg's Bran, cooked and krumbled, for the treatment of mild and chronic constipation cases.

Kellogg's Bran overcomes the objection to common bran that becomes so irksome to the patient to eat. Kellogg's is actually delicious, its nut-like flavor adding an appetizing touch when sprinkled over the patient's favorite hot or cold cereal. Yet, Kellogg's contains all those food and regulatory elements which make it invaluable in many illnesses.

Kellogg's Bran, through its ability to absorb water, giving bulk and moisture, is nature's way of assisting in elimination of waste matter. Peristaltic action is increased and in a very natural way the patient's condition improves.

Authorities, as you know, point out that premature old age and much preventable illness has its beginning in the intestinal tract. And, the best way to ward off these enemies of mankind is to rid the system of waste materials at the earliest possible moment. Through the consistent use of Bran belief grows that the average life can be considerably lengthened. All grocers sell Kellogg's Bran.

An Analysis of *Kellogg's* BRAN cooked and krumbled

Aside from its regulatory value, Kellogg's Bran commands attention as one of the most valuable foods known. Read this analysis:

Moisture	2.50
MINERAL SALTS	8.41
Protein	15.8
Fat	2.8
Crude Fiber	8.9
Carbo-hydrates	61.6
Calories (per pound)	1480.46

We would be pleased to mail physicians a large package of Kellogg's Bran, cooked and krumbled, without the slightest obligation. Kindly send us a request card today.

Kellogg's — *Look for this signature W. K. Kellogg*

the original BRAN ~ *cooked and krumbled*

Medical Notes.—By Sir Thomas Horder, M.D. (Lond.), F.R.C.P. (Lond.). (Physician, with charge of Out-Patients to St. Bartholomew's Hospital). Henry Frowde, Oxford University Press, Hodder & Stoughton, 20, Warwick Square, E. C. 4, London, 1921, price, $2.50.

A valuable collection of little notes surcharged with common sense.

The Surgeon General's Library

The number of volumes contained in this library is tremendous. These books are procurable through what is known as the inter-library loan. It is the policy of that institution to loan to medical men throughout the United States through the medium of their local library. The transportation charges are paid both ways by the borrower.

There is a file of the "Index Catalogue" of this library at many places and also of the "Index Medicus" which is published by the Carnegie Institute. It is truly astonishing how convenient it is to obtain valuable information once you have become familiar with the plan.

Chaulmoogra Oil and Leprosy

The United States Public Health Service has felt it necessary to prevent the too optimistic and extravagant claims recently appearing in the newspapers in regard to the curative effects of chaulmoogra oil derivatives on leprosy. While the use of the oil and of its derivatives has resulted in a considerable number of apparent cures, it is as yet too soon to tell whether these will be permanent.

The ethyl esters of chaulmoogra oil, the use of which has largely supplanted the oil itself, constitute a most valuable agent in the treatment of leprosy. In treating young persons and those in the early stages of the disease, the improvement has been rapid and striking; in older persons and older cases it is less so. Of the cases paroled from the leprosy stations in the Hawaiian Islands so far, about eight per cent. have relapsed and returned for treatment. This was to be expected; and on the whole the results have been so favorable as to make treatment of the disease hopeful. But only time can tell.

A negative Wassermann reaction is merely presumptive evidence of the absence of syphilis. It does not in any sense constitute proof. The blood may at times be negative, with the spinal fluid positive. A negative Wassermann may occur in the presence of tertiary skin or visceral lesions. After the Wassermann has become negative, intravenous treatments may be suspended (in the absence of visceral or neurosyphilis) and mercury used to complete the cure.—Jay F. Schamberg, M.D., *U. and C. Review.*

A New Salt of Marked Value in Gonorrhea

Zinc Borosalicylate (C H BO) 2Zn.—NEISSER-SAN-KAHN—by a fusing process in manufacture, the germicidal properties of the drug are retained with elimination of its irritating properties.

NEISSER-SAN-KAHN

(Zinc-Borosalicylate)

Has distinct advantages in treatment of urethral infections.

Definitely Germicidal Non-Toxic
Power of Deep Penetration into the Epithelium
Does Not Stain Forms Stable Solution

The definite gonococcidal strength of NEISSER-SAN-KAHN with its freedom from irritation and other objectionable features—stamps this new agent as an outstanding drug for use in genito-urinary diseases.

Procured on prescription (druggists not stocked being supplied through the regular trade channels) or direct from our Laboratory.

Write for Literature

YORK LABORATORIES COMPANY

COURT AVE. AND JACKSON ST. YORK, PENNA.

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 468



Six $1 Sterili Thermometers FREE

Physicians! Here is an unusual opportunity to get one-half dozen one-minute thermometers without cost. Three Sterili Brand thermometers in metal cases with chains and three Sterili thermometers in rubber cases. Exactly the same thermometer as listed in our catalog at $1 each. Guaranteed perfect in every respect.

Special Offer, 25 Days Only

The six thermometers will be included free with each cash order of $18 or more received prior to July 1. This offer includes any item listed in our 1922 catalog. The only provision is that the order must total $18 and be sent within 25 days with cash, check or money order. Each customer is limited to one set of six thermometers.

Order today while you think of it. Send to our nearest branch or direct to us.

CHARLES A. BREON & COMPANY

PHYSICIANS' SUPPLIES

Coca Cola Building **Kansas City, Missouri**

BRANCH OFFICES:
George A. Breon & Co., 209 Rhodes Building, Atlanta, Ga.
George A. Breon & Co., 1018 S. Wabash Ave., Chicago, Ill.
Intravenous Distributing Co., 59 Fourth Ave., New York City



RADIANT LIGHT AND HEAT

FOR LOCAL INFECTION

Speaking of the treatment of local infections, Dr. Wm. Benham Snow in a recent address said—

"Radiant Light and Heat reflected from incandescent electric lamps, with sufficient energy and long exposures will destroy many germs *in situ*.

"Infections on the surface and many beneath the skin will either be destroyed by the light and heat, or by the large numbers of phagocytes which come through the widely dilated blood vessels.

"To those who have not thought to employ heat from energetic sources to destroy local infection the effects will be reassuring."

Thermolite

LIGHT AND HEAT APPLICATOR

is a scientifically designed and well made appliance that reflects a flood of PENETRATING light and heat in PARALLEL rays—no focal spot to burn or blister.

Far superior to ordinary hot applications, because the heat penetrates deep into tissue, is constant, always ready, acts quickly and is combined with beneficial light.

Used in All Government Hospitals.

Sold by electrical and surgical supply dealers.

TRY THERMOLITE

For the Treatment of

Neuritis	**Stiff Neck**	**Erysipelas**
Rheumatism	**Burns**	**Shingles**
Lumbago	**Coryza**	**Eczema**
Sprains	**Pneumonia**	**Ulcers**



No. 0670
Office Applicator

Reflector 12" diam. Stand adjustabe from 57" to 96" high. Consumes 375 watts at 120 volts A.C. or D.C. Covers 300 square inches 36" from reflector. Finish Olive and Nickel. Price complete with stand $30.00 each.

No. 0645 Hand Applicator

Same design as 0670 only 8" diam. Consumes 200 watts, 120 volts A. C. or D. C. Made of Aluminum, weight 16 oz. Finish Black and Nickel. Price complete without stand $10.00 each. Folding stand only for No. 0645, $6.00 each. **Write for interesting and instructive literature.**

H. G. McFADDIN & CO.

34 Warren Street New York

Makers of lighting devices since 1874

Six $1.00 Thermometers Free!

Doctor, an unusual opportunity is offered this month to get one-half dozen one minute thermometers without cost. They are exactly the same thermometers as listed in the Geo. A. Breon catalogue at $1.00 each—guaranteed perfect in every respect. It is a special offer for 25 days only; turn to page — and see it.

Prompt Gonococcocidal Action

Physicians are finding that a prompt gonococcocidal action without irritating effect follows the use of Neisser-San-Kahn (zinc-borosalicylate) in gonococcal urethritis.

Its advantages lie in its powerful inhibitory action upon the growth of the gonococcus, its marked penetrating properties, minimum of irritation and the stability of its non-staining solution.

The gonococcocidal action of Neisser-San-Kahn brings about an early cessation of the discharge; as a result of this prompt effect danger of complications and chronicity is materially reduced.

Literature will be sent to AMERICAN PHYSICIAN readers gladly on request. Address, York Laboratories Company, Court Ave. and Jackson St., York, Pa.

New Non-Narcotic Hypnotic and Analgesic

In writing on Allonal 'Roche,' the new non-narcotic hypnotic and analgesic, Dr. M. A. Burns, in an article read before the Philadelphia Neurological Society and published in the *New York Medical Journal*, concludes:

"The unpleasant by-effects familiar with the other were absent. There is no effect on respiration, nor any apparent depressant action on the circulation.

"From the experiences quoted it seems safe to conclude that the new drug is a remedy of real value for controlling insomnia and pain, and that it will enable us to get along with less of the narcotic pain allaying remedies. It worked better than morphine in many cases, and in others better even than morphine and hyoscine together."

This new discovery, Allonal 'Roche,' has all the advantages of an opiate without the disadvantages. Literature will be sent to AMERICAN PHYSICIAN readers; address: The Hoffman-La Roche Chemical Works, New York City.

New Price List Ready

Word comes from the Abbott Laboratories that their new 1922 price list is now ready for distribution to the medical profession. This list contains the new medicinal chemicals and Council-passed synthetics, such as Butyn, Acriflavine, Cinchophen, Barbital, Procaine, Chlorazene and Dichloramine-T.

This new list, representing, as it does, the results of years of commendable research and scientific work, will be sent to AMERICAN PHYSICIAN readers on request. Address: The Abbott Laboratories, Dept. 49, Chicago, Ill.

"Run Down" Patients

Has it ever occurred to you that your "run-down" patients who are tired all the time, whose oxidation and elimination are slow, temperature subnormal and blood-pressure low, especially in cases following an attack of grippe, pneumonia or even a bad cold, are suffering from hypoadrenia? You can modify these common symptoms by supporting the adrenals. Adreno-Spermin Co. (Harrower.)

Interesting booklet, "Adrenal Support," will be sent to AMERICAN PHYSICIAN readers on request. Address: The Harrower Laboratory, Glendale, Calif.

(Helpful Points continued one leaf over.)

Had Infantile Paralysis

—now plays ball, roller skates and swims



A Typical Case

This child would have been a hopeless, helpless cripple for life if the family physician had not fitted him with a Philo Burt Spinal Appliance. Here is what the doctor says:

"Enclosing check for work done on jacket for Alvah Bond. The work is well done and up to your usual standard of excellence. You were especially prompt and your charge, too, is most gratifyingly reasonable; I thank you. I placed the Philo Burt Appliance on Alvah last June and together with the exercises you suggested and the treatments he received here at the office, I feel thoroughly justified in having put it on him. The curvature itself is impossible of correction, being an extreme lateral curvature from Infantile Paralysis, the apex of the curvature being under the scapula. Since wearing the Appliance I have gotten him gradually to playing ball, roller skating, and having reached the mature age of twelve, he is now a Boy Scout and a member of the Y. M. C. A., where he is taking swimming lessons. The Appliance gives him good support and at the same time allows him to be more active and be like the other boys who have good backs. I shall feel no hesitancy in placing your appliance where it is in any degree indicated."

WE MAKE THE PHILO BURT APPLIANCE TO ORDER FOR ANY CASE AND SEND IT ON 30 Day Trial

The Appliance lifts the weight off the spine and corrects any deflection in the vertebrae. It does not chafe nor irritate; weighs ounces where other supports weigh pounds and is easily adjusted to meet improved conditions where the spine is straightening and the body is resuming its normal shape and form. It can be taken off in a moment for bath, massage, relaxation or examination and put on again just as quickly. Does not show through the clothing. We are anxious to co-operate with local physicians, and will send without charge our Physicians' Portfolio of letters from doctors who know by experience. Let us explain our plan of hearty co-operation with the physician in charge. We guarantee perfect fitting from your measurements and refund money paid us if either doctor or patient is dissatisfied at end of 30 days.

PHILO BURT CO., 115-18 Odd Fellows Temple Jamestown, N. Y.

Home Treatment In Tuberculosis



With over a million active cases of tuberculosis, home treatment is absolutely necessary. It consists of rest, food and fresh air supplemented by proper medical attention and medication.

Dr. Beverly Robinson has stated "that we have absolutely no medical treatment of pulmonary tuberculosis at all equal to the creosote treatment properly used and insisted upon."

Mistura Creosote Comp. (Killgore's) contains the genuine wood creosote unchanged by the addition of chemicals and will meet all the requirements of the creosote treatment.

Dose:—Teaspoonful in one-third of a glass of milk or water after meals.

Sample Sent To Physicians On Request

CHARLES KILLGORE

Manufacturing Chemist Established 1874

55 West Third St., Cor. West Broadway New York

New and Effective Violet Ray Tube

After testing out his new Violet Ray Tube for five years in daily use, giving over one thousand four hundred treatments without a failure. Dr. Chewning has been persuaded by his colleagues to make this available for the profession.

Physicians who have seen the new Violet Ray Tube in use are enthusiastic about it—so much so that Dr. Chewning has gradually taken up the task of supplying physicians with it. With many satisfied owners, the Doctor states he has yet to receive any "kick."

See the advertisement on page 406. The price is only $10 and can be attached to any socket or holder that has a cone-shaped reflector, such as an ordinary reading lamp with a flexible arm, so no expensive equipment is needed. Address: The New Violet Tube Co., Dr. W. J. Chewning, Fredericksburg, Va.

The Pharmaceutical Chemistry of Silver Proteids

Silver is a favorite gonococcide. And the manufacturing chemists are doing their part to render it of the utmost service by supplying compounds which are, in the first place, effective; in the second place, non-irritating, and, finally, free from staining tendency. Soluble silver salts darken under the influence of light, as a rule; but we are offered, in a preparation called Neo-Silvol, a very freely soluble silver combination that does not darken as the solution dries, but assumes a pale yellow tint; moreover, it is said to be as effective as any other silver preparation available, and non-irritating as well.

Neo-Silvol is used in the same way as Silvol—not only in gonorrhea, but in any infection of accessible mucous membrane. Both are supplied in powder and in 6-grain capsules; and the quality of both is guaranteed by the manufacturers, Parke, Davis & Company.

Concerning Cathartics

To the layman, a cathartic is simply a cathartic and nothing more. One thing is as good as another as long as it "moves the bowels." To the physician there is a vast difference between "moving the bowels" and inducing normal bowel action.

For years strychnine was the stock ingredient of cathartics for the purpose of sitmulating the muscle to peristalsis. But nowadays we realize that strychnine more often inhibits peristalsis by over-stimulation, and that the best stimulant of intestinal muscles is the intestinal secretions.

Pil. Cascara Comp. Robins contains no strychnine to force the musculature nor belladonna to inhibit the secretions. On the contrary, it stimulates the flow of secretions and normalizes peristalsis. It is, in fact, a normal cathartic. For samples and descriptive literature, address A. H. Robins Co., Richmond, Va.

(Helpful Points continued one leaf over.)

Calcreose



Bronchitis

especially the bronchitis associated with pulmonary tuberculosis, is benefited by creosote therapy.

CALCREOSE (calcium creosotate) is a mixture containing in loose chemical combination, approximately equal weights of creosote and lime.

CALCREOSE differs from creosote in that it does not have any untoward effect on the stomach; hence patients do not object to its administration.

Price:—Powder, lb., $3.00. (Prepared by adding 1 lb. to 1 gallon of water.) Tablets: 4 gr., 1000, $3.00; 500, $1.60; 100, 40c.

Samples (tablets) and literature free.

THE MALTBIE CHEMICAL CO. Newark, N. J.

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 468

FIDELITY TO AN IDEAL
has won
PROFESSIONAL COMMENDATION
for

MANSFIELD AGAR AGAR WAFERS

A DRUGLESS LAXATIVE FOOD

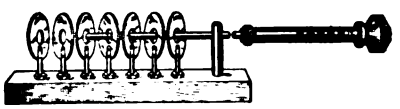
Originally produced at the suggestion of physicians, these wafers have been manufactured for ten years with a persistent endeavor to merit the confidence and approval of the medical profession. That we have succeeded is demonstrated by continued and increasing sales, unstimulated by any advertising during the last four years.

We believe that the hygroscopic properties of agar and the vitalizing qualities of the entire wheat grain, combined, have resulted in a product of proven value in the treatment of constipation due to intestinal atony. As evidence of this belief, we gladly offer any physician a package of the wafers.

THE MANSFIELD LABORATORIES, Inc.
18 CHANDLER STREET **BOSTON, MASS.**

What Makes the Hogan High Frequency Superior?

What is the factor which enables this apparatus to be operated for hours at a time without interruption in service preventing a break-down at a critical moment?



The improved Spark Gap illustrated is responsible for the great satisfaction experienced by users of the apparatus. This consists of a series of discs of a highly refractory metal mounted upon insulating material of great heat-resisting qualities with a sliding rod running through the central apertures regulating the length of spark.



The Hogan High Frequency Apparatus

offers triple service, affording Oudin, Tesla and d'Arsonval currents suitable for vacuum electrode effects, diathermy, auto-condensation, fulguration, electro-coagulation, etc. Used by leading operators.

Ask for complete literature.

Manufactured by

McIntosh Electrical Corporation
Successors to McIntosh Battery & Opt. Co.
Established 1879
Eastern Office and Service Station
405 Lexington Ave., New York
Main Office and Factory: McIntosh Bldg.,
223-233 N. California Ave., Chicago, Ill.

Gentlemen:
I am interested in high frequency. Kindly send me literature and details on the Hogan.
Name.....
Address.....

Shows How to Get Better Results

That attack of neuralgia, neuritis, muscular or articular rheumatism, etc., can be relieved more easily and quickly by the use of radiant light and heat applied by means of the Thermo-Lite Therapeutic Lamp. Send for interesting literature and learn how you can get better results, gain patients and increase your reputation. Address H. G. McFaddin & Co., 34 Warren Street, New York.

A Complete Baby Food

Nestle's Milk Food produces a complete food, presenting everything the infant needs to assure normal growth. It is not a modifier; it is concentrated dry milk powder already modified with cereals and sugar that only requires the addition of water and boiling for one minute.

A liberal supply of samples for professional use and copies of "The Mother Book" for distribution to your patients, will be sent to AMERICAN PHYSICIAN readers on request. Address: Nestle's Food Company, Nestle Building, New York, or 112 Market Street, San Francisco.

Has Great Therapeutic Value

Dr. W. H. Morse writes: RHINOL has already won its reputation as specific in diseases of the naso-pharyngeal tract. The world war has occasioned a notable addition to this reputation.

Soldiers who were gassed when in service have almost invariably engaged—as the French phrase it—in chronic rhinitis, with pharyngitis. Where this has ensued the affection has become remarkably stubborn and persistent. The patient, complaining of the pulmonary derangement, adds stress to the angina in the mucous membrane of the nose and throat, "that suffocating feeling." Examination shows an œdematous condition, "an angry throat and nostrils." Not infrequently the patient minimizes the chest disorder in favor of the rhinitis. He speaks of it as "that sore breathing." He "wants to get rid of it, first of all."

The practitioner who is acquainted with RHINOL has full evidence of the indication. Under these conditions he realizes its great therapeutic value as, perhaps, never before. The results from its exhibition are uniformly satisfactory. Even before there has been a repair of the chest lesion, he declares for improvement, and when the rhinitis, which has become chronic, yields to the RHINOL, his requisition is "for something that will put the lungs in order with equal benefit."

It is not too much to say that wherever RHINOL has been used in this description of rhinitis, the results have been as satisfactory as they are in the acute rhinitis which does not complicate any other affection of the tract.

Comments on Santyl

From "Diagnosis and Treatment of Blenorrhagia in General Practice," Prof. Mulzer, Munich. From Vox Medica, No. 6, Dec., 1920. . . . When, during the treatment of an anterior urethritis the process extends to the posterior urethra, the local treatment is immediately to be suspended, and remedies for internal use alone are to be used. Whereas the use of these remedies is

(Helpful Points continued one leaf over.)

ANUSOL
(Trade-Mark)
Hemorrhoidal SUPPOSITORIES

They break the "Vicious Circle" in Hemorrhoids

Hemorrhoid sufferers are always inclined to become careless and dilatory in their bowel movements, for fear of painful defecation.

And right there starts the "vicious circle"—constipation, local irritation, aggravated Hemorrhoids, painful defecation, increased irregularity, and so forth.

Anusol Suppositories remove the dreaded strain and the reassured patient resumes his regular bowel function.

Then the excellent healing and tonic action of Anusol Suppositories can *set in* and do its utmost without *set-back*.

And the utmost of Anusol Suppositories accomplishment is the utmost in Hemorrhoidal therapy.

Ample Trial Quantity and Literature from

SCHERING & GLATZ, INC., 150 Maiden Lane, New York

"Massage alcohols" usually leave a heavy, unpleasant odor, due to the denaturant used.

"ALKOLAVE S&D"—the **quality** rubbing alcohol —leaves a refreshingly pleasant odor; it is denatured differently; by special process.

Use it clear or diluted; but only of course on unbroken skin surfaces—never on mucosa and never internally.

"Alkolave S & D"
in 4 oz. and pts.
at your druggist's

Sharp & Dohme
Chemists since '60

To Reduce and Control Hypertension

The clinical significance of increased blood pressure is always that of a danger signal. It should be interpreted carefully and treated efficiently.

Pulvoids Natrium Compound

(High Tension Dr. M. C. Thrush)

is a scientific, safe, reliable combination of proven agents. It produces prompt action and its effects are prolonged. It does not disturb digestion or renal function.

Composition

Potassium nitrate, sodium nitrite, sodium bicarbonate, nitroglycerin and crataegus oxyacantha (tonic for heart muscle and to prevent shock). Special (green colored) sugar coating, to dissolve in intestinal tract, and avoid gastric disturbance.

Booklet on High Blood Pressure: How to take, interpret and treat it sent free on request.
If you dispense ask for price list of Pulvoids, Wafoids, Vita-Yeast, Organic Products, etc.

Special Offer to Physicians and Hospitals Only

200 Pulvoids for $1.00. One time only.
1,000 Pulvoids for $5.00. On 60 days' trial; money back if not satisfied.
Either mailed free when cash accompanies order or if sent C. O. D. mailing and collection charges added.

THE DRUG PRODUCTS CO., Inc., 150 Meadow St., Long Island City, N. Y.

Malnutrition



if produced by an obstructive sluggish intestine and the gratifying results obtained by using

Pluto Water



in these cases show it to be the best agent obtainable in disorders of this kind.

Many practitioners direct convalescent patients to the spring for rest and complete treatment.

French Lick Springs Hotel Co.
French Lick, Ind.

in general useless in anterior urethritis, in the posterior cases they may and should be used. Of the balsamics *I employ exclusively Santyl*, of which 20 to 25 drops, or 2 capsules each containing 0.4 Gm., are given 4 times daily after meals.

Literature and samples will be sent gladly to AMERICAN PHYSICIAN readers, address: E. Bilhuber, Inc., 45 John Street, New York.

Conclusions on Yeast Treatment

The conclusion of Dr. Philip B. Hawk and his associates, on the yeast treatment in 17 cases of furunculosis is: "In furunculosis, yeast is a remarkably efficacious remedy. Its curative action in these cases is no doubt aided by the leukocytosis which is developed."

The usual dosage in these cases was three cakes (Fleischmann's yeast) a day—plain or suspended in water, beef-tea or orange juice—generally before meals. In some cases, because of the laxative action of the yeast it was necessary to reduce the dosage.

For further information on Yeast, address: The Fleischmann Company, Dept. S-6, 701 Washington New York.

The Significance of High Blood Pressure

The doctor who appreciates the significance of high blood pressure is always interested in anything in the way of treatment that promises to bring about efficient and at the same time safe reduction of the hypertension. It is natural to depend very largely upon the use of the nitrites to bring this about, but the opinion is steadily growing that the continued use of nitroglycerin alone is not to be commended.

Brunton, whose experience and reputation entitle him

(Helpful Points continued one leaf over.)

In Childhood

the benefits from wearing

O'Sullivan's Heels

are recognized and appreciated by thoughtful physicians. The light, springy step, the delightful resiliency, and the avoidance of shock and jar, naturally mean much to the active boy or girl.



Thus the child who wears O'Sullivan's Heels will be happier, the structures of the feet will be strengthened, the gait and carriage will be improved, and with elimination of the continual jarring caused by hard leather heels there will be a marked decrease of nervous irritation and tendency to excessive fatigue, with their all too frequent depressive effect on the whole body.

The sum total is more comfort, greater efficiency and a real conservation of health.

Thus it is that O'Sullivan's Heels have come to fill a definite place in the hygiene of childhood.

O'SULLIVAN RUBBER CO., Inc., New York

Organotherapeutic Suggestions

Weeping eczema in a child where nothing local helps, suggests thyroid origin. The thyroid is intimately connected with the skin. Use Harrower's Thyroid Function Test to determine this apathy, then use thyroid if indicated. In girls inquire as to menses. If irregular, and especially if skin is worse periodically, give Thyro-Ovarian Co. (Harrower) for thyroid and ovarian dysfunction. Remember alimentary canal and also protein sensitization from foods, etc.

Have You Made Your Reservation?

for a copy of the new third edition of Harrower's

"Practical Organotherapy?"

The present edition contains most of the old features and many new ones—fifty new chapters; larger page; larger type; better in every way.

This New Book is Ready for Immediate Delivery

Send your order for a copy at once—enclose a dollar bill; and if this big, new, cloth bound, 416-page book does not "suit you to a 'T'" your money will be promptly returned on request. The regular price of this book should be $4.50, but a dollar represents the entire cost to you and the book will be sent on approval if you prefer.

The Harrower Laboratory
Box 68, Glendale, Calif.

Creo-Tussin in Whooping Cough

IF YOU ONLY KNEW the excellent results physicians are getting from the use of Creo-Tussin in whooping cough you would not be without it for, as one physician stated, "good results are evident the first night."

Physicians who are unfamiliar with Creo-Tussin are requested to write us for sample and literature. Please use attached coupon.

The Maltbie Chemical Company, Newark, New Jersey

Creo-Tussin

is a palatable solution of creosote, gelsemium, passiflora, yerba santa, menthol and aromatics. Conveniently put up in 2 oz. bottles with blank labels for directions, each bottle in plain carton.

Price—Dozen 2 oz. $4.00, Pint, $2.40

Cut Here and Mail Today

THE MALTBIE CHEMICAL CO., Newark, N. J.

Please mail sample Creo-Tussin to

_____ **M. D.**

A. P. 4 22

Mentioning The American Physician Insures Prompt, Careful Service

"I Tried All The Leading Foods"—

"A fine strong girl born a month ago, steadily lost ground, in fact was rapidly falling away. The Mother's Milk did not at all agree or satisfy. I tried all the leading foods and milk in various modified forms. But nothing satisfied until I sent for a bottle of Nestlé's Milk Food, when, with the first feeding, the little one improved almost as if by magic. The child is now living wholly on Nestlé's Milk Food, and is doing well."

(*Physician's name and address withheld for professional reasons*)

In emergency cases or for routine use you may safely rely upon Nestlé's Milk Food as a dependable nourishing food for babies.

Nestlé's is simply pure cow's milk modified by the addition of malt, cereals and sugar and then reduced to powder form. It is milk, free from pathogenic bacteria, in a form which is easily prepared and readily digested.

Your name and address will bring liberal samples.

Nestlé's Food Company

Nestlé Building, New York — 112 Market Street, San Francisco

to be considered as an authority, recommends for the treatment of hypertension a combination of the nitrite of soda, the nitrate of potash and bicarbonate of soda. This combination does its work very well, but according to the extensive clinical experimentation carried on by Thrush, of Philadelphia, nitroglycerin and crataegus oxycantha may be added to the above with decided increase in therapeutic results when presented in proper form. The blood pressure is promptly lowered without irritation or shock and the effect of the combination continues for a considerable period of time.

The formula suggested by Dr. Thrush has been placed on the market under the name of Pulvoids Natrium Comp., and has steadily grown in popularity and use among progressive physicians.

Any physician who has not yet satisfied himself as to the efficiency of this valuable combination in the treatment of high blood pressure can easily convince himself by clinical test that the claims made for it are in every way warranted.

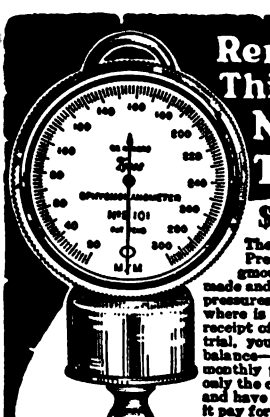
Literature, price lists and *Drug Products*, a house organ devoted to the products of the company will be sent gratis to any physician on request. Address: The Drug Products Company, Inc., 150 Meadow Street, Long Island City, New York.

Keeps You Fresh on Anatomy

Your knowledge of anatomy cost you hundreds of dollars and months of intensive study, and yet, continually, physicians say they forget much of it after a few years of practice.

A Pilz Anatomical Manikin (life size, complete in every part) is the equivalent of a human body to dissect, always available and lacking all unpleasant features. It will keep your knowledge of anatomy, so important an element of successful diagnosis and treatment, always fresh and up to date. The prices

(Helpful Points continued one leaf over.)



Rent This TYCOS Nine Months Then It's Yours

$2.50 Monthly Brings It

The new 1922 model celebrated Blood Pressure Apparatus. Dr. Rogers' Sphygmomanometer is very accurately made and registers both systolic and diastolic pressures. The cash price of the Tycos everywhere is $35.00. We will send it to you on receipt of only $2.50 and, if after ten days' trial, you wish to keep it, simply pay the balance—$22.50—the same as rent—in nine monthly payments of $2.50 each. You pay only the cash price (no interest—no extras) and have nine full months in which to make it pay for itself.

Leather Case and Booklet Free

With every Tycos is included Free a genuine morocco leather case. You can put your Tycos in to this case and carry the entire instrument in your pocket. Besides the case, we give you Free, a 44-page booklet which explains accurately, thoroughly and plainly just how and why the Sphygmomanometer is essential to the intelligent practice of medicine.

Ten Days' Trial—Money Back

Send today. Just sign and mail the coupon below—enclose $2.50 for first month's rent and we will immediately send you the instrument and you will only have to pay $2.50 each month until the cash price, $35.00, is paid in full. Send that $2.50 today. Remember, we give ten days' trial and return your money if you are not satisfied. The price for all cash with order is just the same, $35.00.

SIGN AND MAIL COUPON

A. S. ALOE CO. Factory Distributors. 551 Olive St., St. Louis, Mo.

I enclose first payment, $2.50, for which send me Dr. Rogers' TYCOS and Outfit on ten days' trial as per your offer. I agree that the title is to remain in you until paid in full.

Name .....

Address .....

Indicated in adhesions

Adhesions are most likely to occur in the lower part of the colon. They are found present in cases of extremely obstinate constipation. A foremost roentgenologist and alimentary specialist states that in these conditions the lubricating action of liquid petrolatum is certainly indicated.



Adhesions of Pelvic Colon in Constipation

NUJOL is scientifically adapted by both viscosity and specific gravity to the physiology of the human intestines. In determining a viscosity best adapted to general requirements, the makers of Nujol tried consistencies ranging from a water-like fluid to a jelly. The viscosity of Nujol was fixed upon after exhaustive clinical test and research and is in accord with the highest medical opinion.



Normal Colon

The unmatched resources of the manufacturers, the perfection of their technical equipment and an expert personnel place Nujol upon a basis of unique superiority.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis upon request to Nujol Laboratories, Standard Oil Co. (New Jersey), 44 Beaver Street, New York.

Nujol

REG. U.S. PAT. OFF.

A Lubricant; not a Laxative

Guaranteed by Standard Oil Co. (New Jersey)

Laboratories Clin

The Ideal Mercury-Arsenic Combination

Enesol

(Salicylarsinate of Mercury)

Low Toxicity (70 times less than biniodide of Hg.)

Painless injection, causes no local irritation. Combined sterilizing and specific action.
For intramuscular or intravenous injection.
In ampoules of 2 mils (2cc) and 5 mils (5cc) of solution containing the dose of 3 cgr per mil.
Dose—2cc corresponding to 6cgr Enersol per day.
Saturation Dose—4 to 6cc every 2 or 3 days given by intramuscular injection. 2cc to 10cc every 2 or 3 days intravenously.

Write for samples, literature and clinical reports

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90-92 Beekman Street, New York City

PARIS, FRANCE

are: $18.00 for female, with elaborate obstetrical supplement; $15.00 for male, and $15 for sexless. And for Dr. Minder's Manikin, female, $3.00; sexless, $2.50.

These are sent on receipt of New York check or C. O. D., and through dealers, on money back guarantee.

For free booklet, address: American Thermo-Ware Co., 16-B Warren Street, New York City.

Effective Synthetic Compounds

In the treatment of neuritis, caused by toxins and morbid states of the blood, found in the constitutional state known as gouty, I have obtained ideal and gratifying results from the use of pyrazophen. Without disturbing the proper functioning of the human organism there is obtained relief from pain, laxative action of the bowels, diuretic action of the kidneys in conjunction with the chemical reagent effects on the defects of metabolism. The urine that had been turbid and offensive in odor soon lost its turbidity and the odor of putrefaction and became sterile.

—Dr. A. B. Lichtenwalner.

Naso-pharyngeal catarrh, aural catarrh, stiffness of the joints and groups of muscles, cutaneous affections of the eczematous type, acute and subacute rheumatism, and that polyarthritis affecting the metacarpal and metatarsal joints, and characterized by the development on the dorsal surfaces of round, elevated, painful cyst-like formations, which solidify and deform, are all relieved by the use of befsal.—Dr. Henry Beates.

The price of this effective synthetic is $1.00 per ounce. They may be ordered, or further information, from Dr. S. Lewis Summers, Producer of Synthetic Chemical Compounds, Fort Washington, Penna.

(Helpful Points continued one leaf over.)

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A New Treatment for Trigeminal Neuralgia

Chlorylen is used with marked success in the treatment of tri-facial neuralgia. It has a specific action on the sensitive Trigeminus, gives immediate relief and the pain disappears after a few treatments.

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A substitute for the Bismuth salts, Sodium Bicarbonate, Silver Nitrate, etc., in the treatment of Hyperchlorhydria, Hypersecretion, Ulcus Ventriculi, etc. A white, tasteless, odorless powder; supplied in packages of 100 grams each. The dose is one teaspoonful in a glass of water before food.

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A sedative and soporific for use in the treatment of Neurasthenia, Insomnia, Hysteria, Palpitation of the Heart, etc. It is a Valerian and Amylene combination, is easily absorbed and acts promptly. Valamin is marketed in packages containing 25 capsules of 4 grains each. The dose is one or two capsules after meals. In nervous insomnia, two to four capsules should be taken before retiring.

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The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

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Put up in 11 oz. bottles

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Diacetyl Methylene-disalicylic Acid. AN UNQUESTIONABLE REMEDY FOR RHEUMATISM.

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Mercury-Diiododiaryl. Holds 25% Mercury and 20% Iodine in organic combination susceptible of circulating in fluids of body to react on the spirochetes of syphilis. AN ALTERATIVE OF MARKED VALUE. **Price, $1.00 per Box.**

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TRADE MARK REG.

A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

FOR

Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS

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With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.

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DOCTOR! Do You Want Results in Chronic Cases



No. 1 SINUSTAT

The Ultima No. 1 SINUSTAT shown will relieve pain in Sciatica, Neuritis, Rheumatism, Lumbago, Neuralgia, etc., by producing a sedation of the nerves.

Mild applications to the gastro-intestinal tract stimulate normal functions.

Try This Thirty Days Free! Just sign the coupon and we will send this on free trial without one cent in advance. If it fails, return it without any obligation.

FREE! A Valuable Chart and Booklet giving full directions will be included.

Ultima Physical Appliance Co.

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Gentlemen: You may send me on 30 days' trial the No. 1 Sinustat. If satisfactory I will pay you $5.00 in 30 days; $5.00 in 60 days; $5.00 in 3 months and $5.00 in 4 months. If not satisfied I will return it at the end of 30 days.

(Signed) .....

Address .....

Mentioning The American Physician Insures Prompt, Careful Service

Prescribe



Marvel Whirling Spray
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25 W. 45th Street **New York**

Fatalities in Pneumonia

More people die from pneumonia than any other disease. Approximately 25 out of every 100 cases end fatally.

Dr. Gustav Goldman has demonstrated that at least twenty of these twenty-five deaths may be prevented by employing bacterial vaccines.

Most physicians feel that it is unwise to delay and chance a fatal termination. They use bacterial vaccines at once. And most clinicians have found that the vaccines of the Bacteriological Laboratories of G. H. Sherman, M.D., Detroit, Mich., are effective and dependable.

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Intravenous medication has passed the experimental stage—it has been found the effective therapeutic method in many conditions in the hands of countless clinicians.

Endo Specialties for direct medication by the intravenous method, made by the Intravenous Products Co. of America, Inc., 121 Madison Avenue, New York, are prepared with the utmost care, skill and acumen by experts. Formulae of these specialties, reprints of interesting articles and price lists will be sent gladly to AMERICAN PHYSICIAN readers on request.

Research Establishes Value of Petrolatum to Overcome Stasis

The researches of men like Sir William Arbuthnot Lane, of Guy's Hospital, London; Godfrey Taunton, of Paisley Infirmary and Fever Hospital, Birmingham; J. H. Kellogg, of Battle Creek, and others,

(Helpful Points continued one leaf over.)

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"RIEDEL"

To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

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DIABETES

Strictly Starch-free. Produces Bread, Muffins, Pastry that makes the distressing features of Diabetes Grow Less and Less

Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85
LISTER BROS. Inc., 405 Lexington Avenue, New York City

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 468

A campaign of education—No. 5

Bacteria Live in Tooth Brushes

TESTS show that a tooth brush contains millions of bacteria a few hours after using. These bacteria work their havoc in the mouth unless preventative measures are taken. Tooth paste to be thoroughly efficient must be antiseptic. It must destroy harmful bacteria both in the mouth and on the brush. The antiseptic qualities of



Dr. R. B. Waite's
Anti-Py-O Dental Cream

help to eliminate dangerous bacteria both on the brush and in the mouth. In spite of its strong antiseptic properties it is mild enough to be used on the most sensitive tissue. Recommend it to patients as a healer and preventive of bleeding, receding gums, and pyorrhea alveolaris.

The Antidolor Mfg. Co.
180 Main St.
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Mail this coupon today

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On receipt of your professional card we will send you special sample tubes of Dr. R. B. Waite's ANTI-PY-O Dental Cream, including a full-size tube for your personal use.

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INTERNAL REMEDY

Compound of Sodium Benzoate with Alkaloids of Calisaya

A TIME-TESTED, highly therapeutic formula which has proved a veritable wonder worker in many thousands of cases of Tonsillitis. Benzomint has pronounced antiseptic and antipyretic properties. It soothes instantly the intense pain from swollen, inflamed glands, and quickly counteracts both local and systemic infection.

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AN efficacious astringent and antiseptic gargle of great value in the treatment of Tonsillitis.

Pint, $1.00; Five Pints, $4.50; Gallon, $6.00. Either preparation. Send for samples and literature

THROAT SPECIALTIES LABORATORIES

(MILBURN PHARMACAL CO., INC.)
BALDWIN, L. I. NEW YORK

McKesson & Robbins
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Amenorrhoea
Dysmenorrhoea
and other disturbances of the menstrual function call for the true active principle of Parsley:

APIOLINE
(Chapoteaut)

It Secures Results
by acting directly upon the uterine nerve endings and producing ovarian hyperemia, but without disturbing gastric or renal functions.
Avoid impure or unreliable substitutes.
Prescribe original vials of 24 capsules.

Laboratory of
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Physicians' sample and literature on request to
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have shown increasingly the value of liquid petrolatum for the elimination of alimentary toxins.

These poisons, which are big etiological factors in some of the gravest diseases, are best combated by such a liquid petrolatum as Nujol. Nujol, it is found, absorbs and carries these poisons in solution and so eliminates them from the body. It also exercises a lubricating and softening effect that hastens evacuation and increases the number of daily stools.

The company that manufactures Nujol possesses an organization and equipment designed for the manufacture of an unequaled product of this nature. Its laboratories are models of cleanliness, airiness and sanitation. Expert supervision guards every step of production. Girls are clad in spotless white. The home of Nujol has been aptly termed "the last word in sanitary science."

Mulford to Distribute Mercurophen

It may interest our readers to know that the H. K. Mulford Company have completed arrangements with the Dermatological Research Institute of Philadelphia to distribute Mercurophen, a superior mercurial germicide.

Mercurophen was developed by Drs. Schamberg, Kolmer and Raiziss, and introduced by them in 1917.

Clinical data and information will be furnished to AMERICAN PHYSICIAN readers on application to the Mulford Laboratories, Philadelphia, Pa.

(Our Advertising Standards one leaf over)

Sal Hepatica
THE STANDARD SALINE LAXATIVE
Samples on request
Bristol-Myers Co.
NEW YORK





Woodlawn Maternity Home
A strictly private and ethical Home Retreat for unmarried girls and women during pregnancy and confinement, with best medical care, nursing and protection. A home found for the infant by adoption if desired. All publicity avoided. Prices reasonable. For particulars, prices and terms, address
WOODLAWN, OWEGO, Tioga Co., N. Y.



MORPHINE
NEW HOME TREATMENT
For all Drug and Alcoholic Addictions—Doctor: treat these cases at home privately yourself. No pain, very little discomfort. Sanitarium maintained for those who desire. Enclose stamp for full information.
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FROM GRADUATION TO OLD AGE.
THE CROWNING EDITION
FULL OF VALUABLE SUGGESTIONS
PUBLISHED BY THE AUTHOR, D. W. CATHELL, M. D.
THE EMERSON HOTEL BALTIMORE, MARYLAND.
USEFUL FOR ALL MEDICAL MEN FOR THE NEXT HUNDRED YEARS
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"Success depends on Do rather than on Don't"

Not to use ALKALOL, for instance, when confronted with mucous membrane irritation or inflammation, is a sin of omission that is apt to invite adverse criticism.

Because ALKALOL is almost a "specific" due first to its composition—it contains physiologically needed salts.

Also, because its correct salinity and proper alkalinity enables it to reach the cause of the morbid conditions.

Also, because ALKALOL being hypotonic, reverses the osmotic current and feeds instead of exhausting the cells.

Add to these advantages its remarkable soothing and healing properties, and the reasons appear why

ALKALOL IS THE IDEAL AGENT

for use in the eye, ear, nose, throat, bladder, vagina, urethra, rectum, on the skin and internally as a mild yet active antacid.

Invest a cent! A postal request will bring sample and literature

THE ALKALOL COMPANY **Taunton, Mass.**

RHINOL

in All Affections of the Nose and Throat

RHINOL CO., INC.,
1416 Broadway,
New York City.

March 15th, 1922.

Attention Dr. A. H. Werner, Pres.

MY DEAR DOCTOR:

I believe I have an interesting report on the administration of Rhinol in a case of acute sinusitis, and since I myself was the patient, I had the best opportunity of studying its effects in the most direct way.

During a heavy snowstorm on January 17, 1922, I contracted a severe "cold," and as doctors will do, neglected it and attended to my duties for a week more, when an inflammation of both frontal sinuses and both antrums forced me to give up. From my own experience I know now that this is one of the most painful diseases in existence. A friend Rhinologist was consulted, and of course, he did what he could, but I continued to suffer tortures of hell.

About a week later, through Dr. Graf, of New York, I heard of Rhinol, and ordered an outfit.

Well, Doctor, if Rhinol did nothing else but *relieve* a condition like mine, it would be one of the most valuable additions to Materia Medica. But I am certain it *cured* me. Gradually the heavy pus diminished, and I at last ceased to suffer.

About a week after a radiograph taken by Dr. Teperson showed the left antrum still involved. Friend Rhinologist advised operation and rinsing, but I was determined to keep on with Rhinol, since its application had established free drainage and I was improving every day. About two weeks after there was no more pus, and subjectively I felt perfectly well, and at the date of this writing continue to feel well. Another radiograph will be taken soon, and I am positive it will reveal normal conditions.

I now employ Rhinol in my office and carry it with me on my daily visits, using it in every case of Measles, Scarlet Fever, Tonsillitis, Rhinitis—and it has always given immediate relief, shortened the duration of illness, and probably prevented in several cases the usual severe complications.

I am grateful to Dr. Graf for having called my attention to Rhinol and congratulate you for having a remedy which ranks most high among the pharmaceutical preparations at our command.

I cannot help feeling that if the medical profession would show something of the spirit attributed by Caesar to the inhabitants of Gaul—novarum rerum cupidi—it would be better for them, as well as for their patients.

Very sincerely,

Signed, G. THEODOR FISCHER, M.D.,
383 Clinton Street,
Brooklyn, N. Y.

Price Complete, $3.00—Refilled Packages, $2.50

RHINOL COMPANY, Inc. 1416 Broadway, New York

Mentioning The American Physician Insures Prompt, Careful Service

USOLINE
The ORIGINAL
Russian Mineral Oil

USOLINE was the first mineral oil put on the market in this country. It has never been extensively advertised, and exaggerated claims have never been made for it, therefore physicians have been steadily and increasingly prescribing it for internal use year by year.

We again present to you USOLINE as a highly refined 100% imported Russian Mineral Oil, with properly adjusted gravity and viscosity; containing no sulphur or acid impurities, no bloom or fluorescence and no taste.

The consensus of opinion of eight leading clinicians favored Imported Russian Oil (see A. M. A. Journal, Vol. 64, p. 808).

For clinical test, a 6 oz. bottle of USOLINE will be sent you free. Write for it.

OIL PRODUCTS CO., Inc.
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THE STORM BINDER
AND ABDOMINAL SUPPORTER
(Patented)



THE STORM BINDER is adaptable to any case where an abdominal supporter is needed for man, woman or child.
THE STORM BINDER IS FOR GENERAL SUPPORT IN Visceroptosis, Obesity, etc., etc.
THE STORM BINDER IS FOR SPECIAL SUPPORT in hernia, floating kidney, descent of stomach, etc., etc.
THE STORM BINDER IS FOR POST-OPERATIVE SUPPORT of incisions in upper, middle and lower abdomen.
THE STORM BINDER IS FOR MATERNITY CASES, relieving the nausea and discomforts of pregnancy.
Ask for illustrated folder.
Orders filled in Philadelphia only—in 24 hours and sent by parcel post.

KATHERINE L. STORM, M.D.
1701 Diamond Street Philadelphia

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HONEST MARKET-PLACE

A Convenient Place Where You Can Deal With Confidence; and get information—commercial, scientific, general—helpful to you and reliable.
We believe the right kind of medical journal advertising is truly useful to the medical profession. We seek to promote and extend that usefulness.

Our Advertising Standards

Advertisements must give honest service to our readers and their patients is the *basic principle* for these standards and for the conduct of THE AMERICAN PHYSICIAN'S advertising pages.

Our attitude in applying these standards is not one of narrow technicality but of *practical service.*

Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

Fraudulent pharmaceuticals; those making dishonest claims.

Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

Pharmaceuticals and other mixtures for internal use and containing narcotics or other habit-inducing drugs in quantities sufficient to promote their improper repetition on prescription (chloral-bearing proprietaries, etc.).

Potent pharmaceuticals which justly merit professional disapproval because of their lay advertising or *manifestly* unethical exploitation.

Financial advertisements that claim returns not compatible with conservative investment. Only *conservative* investments are advertised.

Further - - -

Advertising copy is subject to revision by the editorial staff.

THE AMERICAN PHYSICIAN agrees heartily with the *principles* of the Council on Pharmacy and Chemistry of the American Medical Association and we exclude from our advertising pages such pharmaceutical products as they have definitely shown to be unworthy of professional confidence and the manufacturers of which have not removed the cause of objection; but we do not accept such findings as are based on academic data without due recognition of general clinical experience.

Concerning formulæ, THE AMERICAN PHYSICIAN is urging pharmaceutical manufacturers to give full therapeutic data regarding formulæ, stating quantitatively active medicinal content, in order that physicians may intelligently prescribe. We do not accept advertising of secret pharmaceuticals.

But We do not Decline - - -

Advertising of original drugs, compounds or preparations imitated in current editions of the U. S. Pharmacopœia or National Formulary (except habit-inducing preparations); new products that seem to be honest and valuable, but which have not been reported upon by the Council on Pharmacy and Chemistry, or similar products whose manufacturers have not yet submitted the same to them for approval or rejection. We use our own judgment in these cases, but will always consider proper charges against this class of remedies.

Preparations containing a limited number of drugs in admix-

(*Continued one leaf over*)

Neosalvarsan

TRADE MARK REG. U.S. PAT. OFF.

HA
M E
T Z
LAB

(Neoarsphenamine-Metz)

is unsurpassed in reliability, trypanocidal efficiency and ease of administration.

Neosalvarsan is manufactured by the process used in preparing the original Ehrlich product and offers the physician the ideal means for treating the luetic.

HA-METZ LABORATORIES, Inc.
One-Twenty-Two Hudson Street, New York.

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ANTISEPTIC DRY DRESSING.

*PHYSICIANS!—**A trial in your next case will convince you of its merits.***

℞ ***Dust the Powder directly over the affected part and cover with a bandage in the following cases:***

Lacerated Wounds, Burns, Scalds, Syphilitic Ulcers, Gunshot Wounds, Chancres, Suppurating Skin Lesions and in various forms of Minor Surgery.

*Literature and **Samples on request.***

*Always specify **original package.***

CAMPHO-PHENIQUE COMPANY
St. Louis, Mo., - U. S. A.

New Prices on Merz Santal Comp. Capsules

DISPENSING PHYSICIANS CAN BUY OF US DIRECT

10 Minim Elastic Capsules, box of 100
Also boxes of 12 and boxes of 24

5 Minim Perles .....bottle of 36
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Unsurpassed for happy effect in Urethritis, Cystitis, Prostatic Troubles, difficult micturition, etc.

PRICES AND SAMPLES UPON APPLICATION

THE MERZ CAPSULE CO.
DETROIT, MICH.

Our Advertising Standards

[Continued over from preceding page]

ture and in such form as may parallel a prescription written by a qualified physician who is seeking in the proprietary form elegant pharmacy in place of an extempore prescription.

Products composed of minor botanic remedies in adequate dosage, provided these drugs have a real place in medical literature and are well defined in materia medica, since many thousands of physicians esteem them despite pharmacologic data urged against them.

Minor antiseptics, soaps and toilet articles honestly advertised to both physicians and laymen without false or fraudulent statement; honestly advertised mineral waters and minor purgatives, food products, etc.

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IF YOU HAVE ANY UNSATISFACTORY DEALING WITH AN ADVERTISER IN THE AMERICAN PHYSICIAN, WRITE US THE PARTICULARS AT ONCE.

WE WILL IMMEDIATELY TAKE THE MATTER UP WITH THE ADVERTISER AND SEE THAT THE ADVERTISER EITHER MAKES GOOD, OR HIS ADVERTISEMENT IS ELIMINATED FROM THE AMERICAN PHYSICIAN'S PAGES.

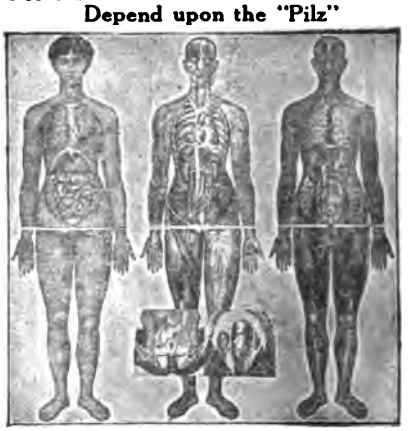
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Automobile Oil

A physician gets no time to figure the cost of operating his car, but if he is paying big repair bills, depend upon it poor lubricating oil has something to do with it.

Keep your car at your service by using EMCO Automobile Oils, the pure mineral oil, refined from famous Bradford Crude

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ANATOMY VIVIDLY PICTURED
is quickly learned and long remembered.
For reference For demonstration
Depend upon the "Pilz"



PILZ LIFE-SIZE MANIKIN
5 ft. 5 in.

Female $18.00
(Complete with obstetrical supplement)
Male.....$15.00 Sexless.....$15.00
Dr. Minder's Manikin—20" x 8"
Female.....$3.00 Sexless.....$2.50
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Write for free booklets.
AMERICAN THERMO-WARE CO.
16-B Warren Street New York City

You can buy with Confidence—See "Service Guarantee to *Readers*" Top of this page



When Appetite is in Abeyance
and a certain amount of easily assimilable nutrient is needed, it is proper to prescribe

Colden's

Liquid Beef Compound

a time proven combination of beef, cane sugar, gentian, cinchona and aromatics

Colden's Liquid Beef Compound stimulates appetite juice, increases gastric secretion, improves digestion of other food, augments gastro-intestinal peristalsis, promotes metabolism and thus produces rapid gain in strength, weight and vigor in "run down" debilitated or convalescent patients. Pleasant and attractive to the taste. *"Colden's is an Efficient Spring Tonic"*

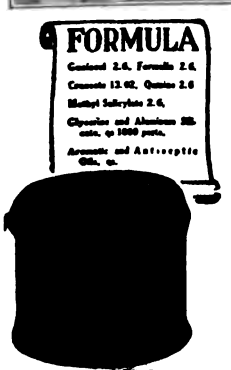
The Century National Chemical Co.
86 Warren Street, New York City
Sample and Literature to Physicians on Request



Pneumo-Phthysine

In Abscess, Felon, Carbuncle, Arthritic Swellings, Orchitis and Epididymitis, Burns, Sprains, Bruises—in short, in all localized inflammatory conditions, PNEUMO-PHTHYSINE is effective in that it lessens pain.

Reduces inflammation and swelling.
Counteracts the infection, and promotes healing.



Apply a thick layer to the affected part. Cover with four layers of gauze and then with a bandage. The application may be repeated as soon as dryness of the paste indicates that its active constituents have been absorbed.

Pneumo-Phthysine Chemical Co. **Chicago, Ill.**

☞ **Unless**

this is especially marked and a subscription bill enclosed, it is NOT intended for you.

NOTE—If you have just recently remitted and a bill is inclosed here, please ignore it. With a subscription list as large as ours it takes a few days for a subscription to pass through, be finally credited and the stencil transferred from one classification to another.

WE ARE—AS THE HEAD OF A MAIL ORDER HOUSE ONCE SAID—

Always Receivin' Interestin' Things in the Mail

Now this month one of our good friends wrote in, "It is with very great pleasure I send you the enclosed for the **great** AMERICAN PHYSICIAN." Whisper it! He means us when he says

The Great American Physician

Now that's fine and it's interestin' and it makes us *feel* great.

BUT the most interesting thing we **can** receive in the mail this month will be a word from you, Brother —and a check. Yes, Brother, we want that check, in fact we need it.

The envelope is right here. We are making it easy. **YOU** make it interesting.

Here's hoping we hear from you, Brother, this time. Thank you.

C. C. TAYLOR.



DR. GRIBBLE'S SANITARIUM

Formerly located at Lebanon, Tenn.—Established 18 Years

For the humane treatment of

DRUG, ALCOHOL AND TOBACCO ADDICTIONS

Using Dr. Gribble's original method; cures accomplished without pain or nervous distress. Over 5000 cases successfully treated. For booklet and references address

Dr. Power Gribble, 1519 McGavock Street, Nashville, Tenn.

Pond's Extract

As vacation season arrives the practitioner is called on to treat the usual forms of dermatitis. The inevitable pain, distress and danger of complications that attend even the simplest attack calls for prompt and painstaking treatment. The use of compresses kept constantly wet with Pond's Extract, full strength, will assure rapid and satisfactory relief from the itching, burning, swelling and discomfort that characterize ivy poisoning and similar forms of skin irritation.

POND'S EXTRACT CO., NEW YORK AND LONDON

Ivy Dermatitis

REGULIN

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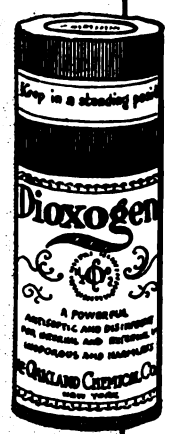
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Dr. Martin, in his excellent paper on the use of electro-mechanotherapy in the prevention of the diastrous after-effects incident to improperly treated fractures, narrates how a patient would meet his doctor in the street and silently and scornfully hold up his ankylosed arm—to the natural displeasure of the physician in question. It is to prevent such "monuments" that we recommend the utilization of the methods advocated in this well-written paper.

Prolapse of the Rectum.
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Few diseases are as annoying as is a rectal prolapse, even if it is not, as such, fatal. Few diseases cause as much discomfort, misery, and suffering as does this distressing disorder. To render the victim respite, relief, perhaps cure, we present this highly instructive paper of Dr. Drueck. The proctologist, as well as practitioner, will not, we vouch, be disappointed with it.

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An interesting investigation of the effect of fresh yeast on uric acid excretion in normal persons has been recently conducted and reported upon. **(See Journal of Laboratory and Clinical Medicine, May, 1922.)**

THE yeast cakes were eaten before meals by two men and two women subjects. One ate 3 cakes a day for ten days. Another ate 3 cakes for six days, then 6 cakes for four days; the third ate 3 cakes for three days, 6 cakes for three days and 9 cakes for four days; and the fourth ate 3 cakes for three days, 6 cakes for three days, 9 cakes for three days and 15 cakes for one day.

The daily diet was similar to the conventional "purine free" diet based on eggs, milk and cheese except that it was found desirable to include a vegetable salad in the noon meal. The same food was eaten every day. Approximately forty calories per kilo were provided and the weight of the subjects remained constant throughout.

The uric acid in the urine was determined by the colorimetric method of Folin and Wu. Hydrogen ion concentration was done by the colorimetric method using methyl red and thymol blue as indicators. Total nitrogen was determined by the Kjeldahl method.

The experiment was divided into four periods—a fore period when no yeast was eaten—a yeast period—and two after-periods when no yeast was eaten. "There was no significant change in the values for uric acid in any of the subjects throughout the experiment," comments the scientist.

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Herewith is a photograph of Page 95. Vol. II, "Diseases of Women," as edited by H. Marion-Sims, M D, and in Dr Sims' own words, is recorded the high esteem in which he held *Hayden's Viburnum Compound* and the "great service" rendered in treating

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DYSMENORRHŒA. 95

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The American Physician

Vol. 27 July, 1922 No. 7

The Present and the Future

of

Drug Therapy

BASED ON A SURVEY undertaken on our travels and visits to many clinics and private offices, the opinions here expressed are sent in from New York City, where our survey ended.

There is no doubt at all that modern pharmacologic and other research has done two things: first, it has scientifically demonstrated the validity of many erstwhile empiric claims, as based on clinical observation, though there has been added a modification in indication and technic of administration of many drugs; second, it has thrown doubt upon the physiologic activity of other agents formerly of repute.

In and of itself pharmacology has done little of a constructive character and has added very few drugs to our armamentarium. Were Peruvian bark never heard of and its merits never discovered before the days of the pharmacologist, it is doubtful if the pharmacologist would have been prompted to investigate it, and even if he had done so it is not at all likely that his researches would have even suggested its action in the treatment of malaria. The same may be said of mercury and many other drugs. But, on the other hand, were digitalis first introduced through pharmacologic research, it is quite probable that its indications, as understood today, would have been fairly well worked out.

Yet pharmacology has served wonderfully as a control to clinical observation and has explained *why* certain actions may be expected of a drug and the limitations thereof. On the other hand, pharmacologic findings are never final, requiring clinical controls on the basis of actual sickness, not the reactions of healthy animals to the drug under study. Both in so-called "regular" medicine and homeopathy, the study of toxicology, whether accidental poisoning or regularly conducted "provings," has very marked clinical limitations when endeavoring to ascertain from such a basis the indications of a drug in the treatment of disease.

Competent pharmacologists are very modest in their statements regarding the assumed lack of activity of any drug, and the sweeping denunciations of many drugs so current today are too much based on negative testimony. Suppose we had only the pharmacologic findings on chenopodium. We would regard the drug as one apt to cause a fall in blood-pressure, with decrease in vagus irritability and a possible respiratory depression; but we would have no information as to the value of oil of chenopodium in the treatment of hookworm disease. Cod-liver oil was, by some pharmacologists a few years ago, regarded as of no more medicinal value than other oils; but now we know of its fat-soluble vitamine content and the drug has returned to favor, even with the research men. So, then, negative pharmacologic findings regarding many drugs must be taken with certain reserve.

Where Is the Pharmacologic Prescriber?

Yes, the pharmacologic prescriber actually exists, and if he is a good diagnostician he is the best clinician in the field. There is no doubt whatever that modern materia medica and therapeutics, largely based, as it is, on pharmacologic findings controlled by clinical observation at the bedside, constitutes most wonderful advance over the old empiricism. The best instances we have seen of such prescribing is in some of the Boston hospitals, and we were much impressed with the results. But such a basis for prescribing is woefully lacking in most hospitals; and to this day we find in many hospitals the old system of made-up dispensary mixtures, No. 27 being prescribed for this and No. 18 for that. There are, it is true, many very able prescribers on the staffs of certain hospitals, and these men interest themselves in series of cases and publish findings in the medical journals; yet the great volume of work in these very hospitals makes it necessary to relegate most of the routine to assistants, who are hard pushed

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 540

for time, the result being that the run of patients get No. 27 or No. 18, or something equally unscientific. Look over the dispensary records of the average large city hospital and the truth of the above will be proved. In some of the smaller hospitals conditions are better, notably in the smaller cities.

To prescribe scientifically is just as big a job as to make a scientific diagnosis; both take time and careful study. The idea that any one can prescribe properly in a minute after the diagnosis is made is all nonsense. Despite a lot of talk of the great need for socializing the profession and providing hospital care for everybody, one fact stands out: that is, that there is a snap-shotism permeating all such work that, despite elaborate hospital equipment and uniformed nurses, etc., the *human factor is neglected.* View the work in the average New York City or Chicago dispensary and judge for yourself. In the average of them we find no pretense of living up to pharmacologic teachings in the hurly-burly work of public ward and dispensary.

Take the young men coming out of our medical schools and after a residence in hospital for a year or two entering private practice, what of them? They are full of the idea that only a dozen or so of drugs are of any value. It is asserted that with such a limited number of drugs to study they will fully understand how to use them; but it is our experience that they do *not* understand them any better than did medical graduates of thirty years ago, and they have such limited knowledge of the underlying principles of therapeutics that their usage of these few drugs is so "standardized" that it constitutes merely a form of modern empiricism. Yet these young men of modern training, after they are out in private practice for a year or two, often become most capable prescribers, using many reliable drugs on a pharmacologic basis. If the hospital-trained young man has been in the private wards under the direction of clinicians who devote adequate time and attention to individual cases, he is fortunate, for then he goes into practice for himself with tempered views and a real knowledge of therapeutic technic.

It took years to train the practitioner actually to use laboratory diagnostic resources, but hosts of them are doing it today: now the effort is to get seasoned practitioners of the old training to use drugs equally as carefully and exactly as they use reagents and microscope. They are coming to it, the result being that the careful prescriber of drugs is the much-maligned general practitioner who is neither socialized nor standardized, but who is practicing medicine as it is taught and has a better mortality record than his fellow in the hospital ward can show. Socializing and standardizing medical practice *positively does not make for efficiency.* Abolishing private practice would set medicine back for years.

The Human Side

The Modern Hospital for January, 1922, editorially comments on the great growth of dispensaries, both free and paid, and advocating the greater extension of the latter type; yet it deplores the fact that it is so often the case that the service is inefficient, due to certain human factors, such as variability in capacity of the personnel, lack of a feeling of personal interest and responsibility, the scant attention commonly given to each patient because of the large number to be seen during the hours devoted to the work, deferring work to a later date or referring the patient to another physician, the absence of follow-up of patients seen, and the dissatisfied attitude of the patients themselves, who are treated as so much material and who often have to wait for hours before they receive actual attention. That magazine thinks the cure consists in getting more money and paying salaries to the attending physicians. We seriously doubt it, for the conditions are due to human factors that factory methods in medical practice will not eliminate.

But we are talking now about the present of drug therapy and how these factory methods of practicing therapeutics debase its standing as an art and a science; in fact, quite ignoring modern teaching in pharmacology and therapeutics and substituting a hasty, standardized empiricism in drug treatment that largely negatives the value of the more careful work commonly done in the diagnosis. The way patients are recorded as to symptoms and other findings, run through two or three laboratories, subjected to other tests, etc., is admirable, but young and clinically inexperienced physicians and lay laboratory workers can do this work and present a chart covering the whole findings. But when it comes to the summation of all of this work, *interpreting* these various findings, making additional inquiry and physical examination suggested by the chart and the appearance of the patient himself, and, most important of all, carefully outlining case-management and drug treatment indicated, that requires at least a half hour's careful and discriminating work on each case by a seasoned clinician of tempered judgment and exact knowledge of diagnostics, therapeutics and pharmacology. The man who becomes accustomed to the slipshod and hasty treatment so commonly doled out in five minutes to the dispensary case is ruined for private practice, where higher treatment standards prevail, unless he gets firm hold on himself and resolutely shakes himself loose from factory methods and the modern idea of standardizing everything but brains and hard work.

The Future of Drug Therapy

Our survey has made us absolutely out of harmony with a lot of modern propaganda, for we have seen what its actual output is when tried out. Drug therapy is fast becoming scientific, but it is hard to

interest the modern man in it except when it is speculative, such as much of endocrinology and serology are thus far in their development. Men who would smile at speculative diagnostic measures will swallow, hook, bait and sinker, a lot of speculative drug therapy or psychoanalysis. And the fundamental reason why so many men are not interested in drug therapy and pharmacology is, as they tacitly recognize in their own hearts, that it is a branch of medicine that requires BRAINS to master and apply, and, as well, a large amount of TIME for each patient.

The future of drug therapy is that of *one important part in case-management*—just as important as is the technic of a surgical operation. After all of the laboratory findings, the case-history, the reports of the specialists, etc.—after these are all in—then the patient should finally go to the MASTER SPECIALIST, the therapeutist and case-management engineer. Call him general practitioner if you will, and deride him if you want to, the fact remains that what is necessary in the healing art is a general commander-in-chief to outline the plan of campaign; the rest of the men are scouts, engineers and technicians. So let the at-present "general practitioner" cheer up, for his position is the key to the situation, and among his ranks will arise the master specialists who will control the *actual erection* of the medical edifice of the future.

But this future of therapy will be many-sided; drugs will constitute but a part of it—an important and exactly defined part—and the man who becomes master of case-management on such a basis will attain to it only after very hard study. Yet he will gain, by virtue of his position, a commanding influence equal to that of the skilled surgeon; and his success in actually applying scientific methods to the treatment of non-surgical cases will elevate the whole field of therapeutics and general practice.—T. S. B.

Chlorophyll and the Vitamines

WHAT RELATIONSHIP exists between the vitamines and chlorophyll? The fat-soluble vitamines are, after all, mostly elaborated in the economy of the animal feeding on chlorophyll-bearing plants, and when the animal is out on green range the milk and flesh carries more fat-soluble vitamine than when the animal is stall fed.

The green and red cells in plants (chloroplasts and chromoplasts), according to Oliver, in "The Natural History of Plants," are protoplasmic, taking from the air carbon dioxid, which goes through the stomata of the leaves and in the cell sap it is reduced by the action of sunlight and carbohydrates are formed. The green chlorophyll bodies are the principal mechanism of this synthesis. Furthermore, according to Mathews (Physiological Chemistry), chlorophyll is a catalytic agent and has to do with the production of sugar.

It is a strange fact that certain animals, the volvox, for instance, possess chlorophyll just as do plants, and can form starch. Light synthesis in animals has never been adequately studied, and when it is so studied it is probable that the vitamines will be better understood, for vitamines seem to be stored-up sunshine in foods.

Chlorophyll, when broken up, yields, like hemoglobin, pyrrhol derivatives; it appears to be related more or less closely to the hematin of the hemoglobin, hemophyrrol being identical with phytophyrrol. Plant chromoproteins are conjugated proteins like hemoglobin and are closely related to the chlorophyll. Both hemoglobin and chlorophyll absorb light and they possess many vital elements in common. It seems a reasonable supposition that as water-soluble vitamines are found in abundance in chlorophyll-bearing plants, that is, those *rich* in chlorophyll, this latter agent must have a bearing on the elaboration of vitamines in the plant structure.

The Practical Application

Burgi, in the *Correspondens-Blatt fur Schweizer Aertz,* contended that chlorophyll is an hematopoietic substance, and Maillart, of Geneva, agreed with him, citing the green-vegetable-eating Genevese as remarkably free from chlorosis and deficiency diseases. Mark that these contentions of Burgi and Maillart were made in 1915 and 1916, before vitamines were known in any definite sense. We venture to refer to them and to the researches of Oliver and Mathews as justifying our raising of the question whether or not vitamines are derived from chlorophyll.

We incline to the view that chlorophyll is, basically, one of the most important substances in nature, rendering possible the elaboration of unfit into fit substances for animal nutrition. That a plant dies when its supply of chlorophyll is shut off is well known, even as an animal dies when deprived of hemoglobin. The importance of chlorophyll in the dietary of animals should be studied, for, as it appears to us, we are studying end-products in vitamines, not fundamental factors.

If we are correct it would appear that, regardless of the differences in fat-soluble and water-soluble vitamines as we know them, the fat-soluble vitamines may be elaborated in the animal system if the diet contains an abundance of plants carrying water-soluble vitamines and, as well, large supplies of chlorophyll.

It all comes right back to nature—to sunshine, to natural processes of growth, to normal diet and healthy living. All modern science is proving that health and longevity depend on obedience to natural law, and that good therapeutics consists in finding out what factors in life are necessary to build up a natural resistance to disease. Sometimes the agency that produces immunity comes out of a bottle, but more frequently the chemist need not be called upon. Nature is the greatest chemist, and the vitamines she has placed in foods suffice for all of our needs. What are vitamines? After all, we don't know. Perhaps they are stored-up sunshine as derived from chlorophyll, even as coal is said to be stored-up sunshine as derived from carbonaceous plants.

What Shall We Do In Cutaneous Anthrax?

REGAN, in several recent articles, has called renewed attention to cutaneous anthrax, prompted no doubt by a recrudescence of the disease in this country since the war. Anthrax was at one time a veritable scourge, but has been rather infrequently observed in man in the United States, but physicians should know how to meet the occasional case observed here.

Regan contends that the ideal treatment should involve little scarring, should be specific, should limit the local lesion and never disseminate it locally or into the circulation, should yield a low mortality rate, should cause a minimum of pain, should be applicable in all forms and be prompt in result.

The classical local treatment is condemned, since it spreads the infection. Surgical treatment by incising the local lesion is considered dangerous and rarely necessary. The natural tendency of the disease is to remain local and we should do nothing to disseminate it. The barrier zone established is the best possible protection. It is now well proved that anti-anthrax serum is effective in the greater proportion of cases; it should be injected around the lesion, and used subcutaneously, intramuscularly or intravenously, as may be indicated by the severity of the case—50 c.c. at a dose for four doses in mild cases, 100 c.c. in more severe cases, and the maximum 200 c.c. Be sure to use it before a septicemia has begun.

Coming

Applied Therapeutics, by A. C. Morgan, M.D.
"Empiricism accomplished much at the hands of our forebears, who were keen in observing the physiologic effects of medicine upon individual patients. Later instruments of precision have confirmed the findings of those investigators and definite results can now be looked for in the light of scientific accuracy."

The Conduct of the Third Stage of Labor, by Samuel F. Gordon, M.D.
"The dangers due to accidents occurring during the interval between the birth of the child and the birth of the after-birth exceed those to which the parturient woman is subjected because of accidents during the rest of labor." This statement deftly summarizes the importance of the subject and should be a warning to those who wade the dangerous streams of obstetrical medicine.

Medical Diathermy in Joint and Bone Lesions, by Elnora Cuddeback Folkmar, M.D.
The importance of using heat as a therapeutic agent has been recognized for centuries. Various methods, local and general, of increasing bodily heat have been devised, from counter-irritants, hot poultices, hot-water bottles, hot baths of the home; to fomentations, hot packs, hot-air bake ovens, tango mud and hot spring baths of sanitoria and health resorts. None of these convective methods induce heat deep within the tissues. They are successful only in so far as they produced by reflex action an indirect slight dilation of blood vessels and an increased metabolism.

Cancer of the Liver and Gall-Bladder, by Hyman I. Goldstein, M.D.
Cancer of the liver and gall-bladder, perhaps more than cancer anywhere else, is fatal. However, it is so easily confused with other disorders of gastro-pyloric, duodenal hepatic or cholecystic origin that a diagnosis without laparotomy is extremely difficult, often impossible. The light, then, on this troublesome, but important subject shed by Dr. Goldstein in this excellent paper will prove of highly practical value.

Rheumatism; Arthritic Conditions and an Effective Remedy, by Lambert Ott, M.D.
Rheumatism, a loose term, with a painful pathology and empiric treatment is a reminiscence of ancient medicine which so far has successfully resisted scientific analysis. Dr. Ott believes that he has established the etiology and found a specific for this class of morbidities. If so, this paper carries a message of hope to the medical profession and suffering patients.

Some Interesting Surgical Cases, by Irvin Hardy, M.D.
Dr. Hardy presents a series of highly interesting cases, which incidentally illustrate some of the "shocking" circumstances under which some of our surgeons are called upon to operate. It also demonstrates the daring, and adaptation, and efficiency, and excellent results our surgical colleagues are securing under trying environments in the scattered portions of our vast country.

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

The Opportunity of the Family Physician

Toward

The Insanity of the Young

By BAYARD HOLMES, M. D.,*
Late Secretary (1891-96) and Professor of Surgery in the College of Physicians and Surgeons of Chicago (1891-1911).
Editor and Publisher of Dementia Praecox Studies (1918—)

Dr. Holmes says: "Whatever is to be done for the twenty thousand and more youths who come down with dementia praecox every year must be done before commitment and before sanitarium segregation.

"The problem of dementia praecox is in the hands of the family physician, where the problem of every other disease which has been solved by our profession has been safely placed."—EDITORS.

NO MEDICAL SUBJECT is in greater disfavor in the public and professional mind than that of insanity. No subject approaching equal importance has received from the profession and the reading public such scant attention. Yet one cannot take up a daily paper without observing evidences of the grave social disturbances of the disease, both in the columns devoted to the records of crime and in those describing family infelicities and educational complications.

Perhaps no words in our language are subject to such quibbling ambiguity as those applying to the insane. No two persons give the same meaning and color to these common terms. The psychiatrists (soul-healers) and alienists (transferers of patients' rights by legal process) have fixed terms which they use without fixed meanings, because the meanings change from time to time and even vary in describing different mental conditions.

*Prepared for the South Dakota State Medical Society, May, 1922.

Take the following for examples: lunacy, madness, psychosis, derangement, aberration, mania, frenzy, delirium, paranoia, hysteria, monomania and mental slant, and the adjectives, crazy, confused, irrational, unreasonable, pigheaded, freakish, nutty, demoniac, deluded and locoed.

These words are all used both in solemn earnest and in careless derision. No two persons attach the same significance to them or use them under the same circumstances.

The first important matter to any open-minded enquirer in connection with this subject is the necessity of considering a man as an entity. The individual must not be anatomized into body, mind and soul, or any such metaphysical pieces. He must be looked upon as one and inseparable. Think of the mind, the psyche, as the manifestation or excretion of the brain, just as the bile is the excretion of the liver. Avoid every sort of mysticism or vitalism, and don't quibble of the imperfections of the foregoing simile.

The second important matter is the separation of insanity from irrationality. It is a fact that most insane persons appear irrational, but many, if not most, irrational persons, regardless of the degree of their irrationality, are not insane and no one would seriously accuse them of insanity. I despair of finding an example that some one would not object to at once, but take a group of people who now argue that the earth is flat. They may be considered by most of us as perversely irrational, but they cannot therefore be adjudged insane.

An Indubitably Insane Person May Be Logical and Rational

In many if not every particular an indubitably insane person may be logical and rational and his conduct may be on a very high plane of rectitude. When the insane in a certain institution were crowded and sleeping on the floor, with utterly inadequate facilities for feeding, for toilets and for bathing, an

insane engineer went to the superintendent and proposed a new method of building which could be utilized with patient labor and a minimum of outside help. The superintendent was a practical man and took readily to the lunatic's novel proposition. Beginning in a small way and extending as rapidly as possible, he and the lunatic constructed building after building, greatly to the relief of the congestion and to the burden on the public purse. Irrationality and insanity are only incidentally associated. The insane are sick and the sick deserve a physician.

Insanity is generally looked upon as a chronic if not a permanent and irretrievable condition. This is not an essential characteristic of insanity. An insanity may be acute, temporary and transient and leave no trace behind. The drinking of "moonshine" frequently produces a temporary condition that is truly an insanity, and it sometimes produces permanent defect, Korsokov's psychosis. Poisoning with belladonna, hashish, pulka and some minerals like lead and antimony display symptoms inseparable from those of insanity. Infectious and febrile diseases are frequently charcterized by periods of temporary insanity and even by permanent insane states. These states are sometimes short and violent and are clinically termed delirium, but they are also often enough protracted and take on all the essential features of an insanity. Local disease of the brain, tumors, abscesses, diffuse infections, emboli, thrombi, and anatomic defects produce the clinical pictures of insanity, and patients with these conditions are frequently committed to asylums by legal process and their bodily sickness is first discovered at postmortem autopsy.

Even Animals Become Insane

Even animals, ordinarily considered without reason, become insane. There was a widespread disease of cattle and horses and even of wild animals noticed in Mexico and the southwestern states, known to the rangers as "loco." This term was derived, no doubt, from the Spanish "locura," crazy; or "loco," mad, crackbrained. It was believed to be due to eating a weed called the loco-weed and homeopaths sought this weed as a remedy. Large appropriations have been made by some of the western states to exterminate this weed. In India elephants become insane from certain glandular infections on their foreheads, and it is necessary to scrape and cauterize these places or kill the animal. Hunters tell stories of insane wild beasts, but these stories are largely discredited, because we have no way of recognizing insanity in dead animals (or dead men, either) by objective scientific tests. The sleeping sickness is perhaps the only exception to this generalization. The worm that causes sleeping sickness in man is found in the animals, and it is also found in the fly that carries the parasite from animal to animal and from animal to man.

Insanity is Nothing New or Modern

Insanity is nothing new or modern. It was described in the Eber's Papyrus, a medical encyclopedia of 110 pages written 2,500 years before Christ. It was often mentioned in the Hebrew Bible. In the New Testament a crazy man was cured. The demons, long considered the cause of mental aberration, were driven out and went into a herd of swine. The crazed animals ran down a steep place into the sea, and were drowned. The keepers of the swine didn't like the method of cure and begged the innovator to depart out of their country. The geographical distribution of insanity is practically universal, and no tribe, clan, race, nation or family has ever entirely escaped it. While it appears to be more frequent in some places than in others, no locality and no civil or social condition is immune. The civilized and the uncivilized, the black, the white, the red and the yellow, present typical cases of each form of insanity. The insane are statistically more common in New York than in Alabama, but statistics are based on reported, committed, custodial cases. There is no significant difference in frequency that does not depend on the attitude of the public to these unfortunates. While the insane were looked upon as demons and chained up and kept in jails and poorhouses, they had a short life and were fewer relative to the living population; now that they receive better institutional care they live longer and seem therefore in greater ratio to the sane population. In the State of New York Pollack has found inexplicable differences between the ratio of commitment of dementia praecox patients in neighboring cities, and among populations of different racial origins. Occupation or custom may yet yield some explanation if the cause of dementia praecox is ever discovered.

The very aged sometimes become insane and this condition is usually a part of a general nutritional decline, and a slow invasion with parasites.

The symptoms of the insanity depend not alone on the cause (the cause of one insanity is definitely known), but upon the patient's personality. The personality changes with the age and education of the patient, hence the symptoms of two different insanities, that is, of insanities with different causes, in young patients, are apt to be similar in a larger measure than when one patient is young and the other old. Paresis in the adolescent resembles the more common insanity of youth, dementia praecox, and (but for the objective methods of diagnosis and the favorable result of treatment) the former case would pass for dementia praecox.

No Evidence of Heredity

There has occasionally been noticed a tendency for members of certain families to suffer of insanity. This has led to the presumption that insanity is hereditary. The same was said of tuberculosis before the cause of tuberculosis was discovered. Con-

sumption was said "to run in the family" and many old bachelors and old maids lived lonely lives because they feared if they married and had children, these children would be scrofulous or consumptive. We now know that tuberculosis of the lungs is no more hereditary than are cooties or the itch. There is no better evidence to-day that insanity is hereditary than there was fifty years ago that tuberculosis was hereditary. The one insanity for which we have discovered the cause, namely, paresis, is certainly not hereditary or transmissible, though a syphilitic infection is contagious. It makes lots of difference to the brothers and sisters of an insane youth when their mating time comes whether the insanity is hereditary or not. If the professional and public opinion is toward the hereditary and familial origin of insanity, some of the marriages will be interrupted or after marriage some conception or pregnancy will be interfered with. The physician, the alienist and the psychiatrists are taking grave responsibilities when they declare insanity hereditary and transmissible, but they now assume that responsibility with no more scientific basis than their grandfathers declared tuberculosis hereditary and transmissible, and ruthlessly performed abortions on this theory after grave consultations.

So far as I know, insanity has not been produced experimentally in men or animals, though some of the symptoms of insanity appear in occupational poisonings. Workers in lead and antimony, those who use crude wood alcohol and benzol (benzine), those subject to gases containing CO., have more or less permanent abnormal psychoses and are occasionally committed to insane asylums.

The idea that soldiers were scared crazy by the explosion of great shells has been much exploited in the daily press, now become a great medium of medical education, and the assertion by autogenous uplifters that adolescent delinquents have been made crazy by the abuses of the police and by the so-called third degree of the prosecuting attorneys does not seem to be well founded. If these shocks made men and boys crazy, then there ought to have been many more such persons made insane. It is more likely that the few who became insane under such shock were previously sick and about ready to go crazy anyway, or in the case of the police atrocities upon the young, the insanity of adolescence provoked the delinquent action which aroused the furor of the officer who brought the smoldering insanity into flame.

There are several clinical forms of insanity, but it is enough for our purpose to mention four of the more common groups.

Paresis

1. Paresis, or the insanity of the syphilitic, comprises about ten or fifteen per cent of the commitments to the state institutions. That is to say, of the 90,000 commitments in the United States each year, 9,000 to 12,000 are insane because syphilis has attacked certain parts of the brain. These patients live only a short time in custody, perhaps three years on the average, so only 30,000 to 40,000 of the nearly 400,000 in the institutions for the insane of the United States are paretics. Although the cause of this disease is known and methods of diagnosis by biochemical, coloidal, chemical and histopathologic or cytologic tests are positive and indisputable, little progress has been made toward cure. This insanity can, however, be prevented by preventing the spread of syphilis and by adequate protracted treatment of the infected. This is the only one of the insanities which has submitted to mechanistic solution. It is the only one that can be rationally treated. It is the only one against which preventive measures can be instituted.

Aged or Senile Dementia

2. The insanity of the aged, or senile dementia, comprises about the same proportion of commitments as paresis. The duration of the disease is considerably longer in custody, so that the number of the senile insane in our institutions is somewhat greater. Much can be done and is done for their relief and comfort, and much more should be done under proper segregation and colonization. Not enough, however, is known of the physical condition of the aged patients to provide any prophylaxis or prevention. The first steps in research require a complete survey of their physical condition, and their restoration as far as possible to a non-parasitic (uninfected) normal existence. The senile insane might well be cared for in isolated wards, where attendants would be prepared to cater to the infirmities or placed in colonies like that of Gheel, where they would still have the stimulus of family surroundings and young life.

Manic-depressive Group

3. The manic-depressive group comprises the largest proportion of admissions and the greatest variety in regard to the symptoms of the disease. It presents the most difficult group to manage, for it contains a large proportion of the suicides, the assaultive and the noisy patients. Many of these patients are in a most acute and fulminating condition and they need the most immediate and aggressive therapy. Yet this group furnishes the largest per cent of recoveries. Probably half of all the manic-depressives are discharged quite recovered. Relapses are, however, frequent. The etiology of this clinical group is still unknown. The treatment is symptomatic, eliminative and hydrotherapeutic, open air and out of doors. Many respond promptly to the removal of foci of infection in teeth, tonsils, gall bladder, appendix, kidneys, tubes, uterus, bladder or seminal vesicles. There is no demonstrated histopathology of the cerebrum or other parts of the brain in this condition. Mental hygiene and psycho-analysis have not, however, sustained themselves either in prevention or cure. It is a fascinating field for biochemical research. It is distinctly institutional.

Dementia Praecox

4. Dementia praecox is the diagnosis of the group that supplies the growing population of the asylums for the insane, because the patients are young when committed, and they live, even in the restraint of custody, for sixteen years or more. Only twenty per cent of the total admissions belong to this group, but sixty-five per cent of the patient population are dementia praecox. There are quite a number of deaths among these patients during the first year of the disease, but after that time they seem to live in confinement until tuberculosis carries them off. Fifty-two per cent of them die eventually of this disease, and some psychiatrists believe there is a causative relation between dementia praecox and tuberculosis. Thus it appears that dementia praecox is the great problem of insanity and it is obvious that it costs the state sixty per cent or more of the annual output for the insane. The charities budget in most northern states is one-third or more of the total state expenditure. Yet no state has supported any active research into cause, cure and prevention, and no state board or national psychiatric society has ever petitioned a legislature for such an undertaking.

This leads to the study of dementia praecox alone and to a consideration of the obstacles to be overcome before dementia praecox is as rare a condition in our state hospitals as typhoid fever is in the civil and military hospitals, where it once filled a major portion of the beds. It is my firm conviction that such an issue would follow adequate research. One would say at once that a disease which costs the state more than half its appropriations for the dependents, delinquents and defectives must have been pretty acutely and diligently investigated during the last thirty years. Unfortunately such was not the case.

While the State of New York, for example, with nearly forty thousand insane, costing ten million a year for custody alone, is building new institutions at five million dollars each, that State is making no effort at research and supports the psychiatric institute with less than fifty thousand dollars a year—an institute the bulk of whose energies is expended in staff training and routine service rather than in research for prevention and cure.

There are men in high places who excuse this lack of vigorous research into cause, cure and prevention by asserting that aggressive attack on a practical problem, however important, is a wasteful and extravagant method, and that each practical problem should await the steady advance of the frontier of pure science by which advance its solution will be automatically accomplished. What did these opportunists say about the conduct of affairs by the Council of Defense in the late war in organizing the chemists, physicists and other technologists of the United States to discover and contrive poisonous gases and new means of assault—that is, new means of destroying people? The neglect of aggressive research by the professional erudite and the professional keepers of the insane has been again called by "A Report on the future independence and progress of American Medicine in the age of chemistry," a document signed by nine of the most conspicuous chemists of the United States. It was probably written by Julius Stieglitz. This booklet should have the serious consideration of every physician and educated man, whether professional politician or industrial organizer, in the United States. In spite of the years long custom and present conduct of the official almoners of the state and of the official directors of state education, the committee above mentioned urges aggressive, coördinated strategic attack of the problems of disease, among which it especially mentions dementia praecox.

When in 1907 I began the study of the literature of the insanity of youth, my astonishment at the scanty records of physical and biochemical examinations of patients was paralyzing. It was generally asserted that no histopathologic changes in the brain and other organs of the body of dementia praecox patients *had been recognized.* It was, however, noted that the brain weight as compared with the cranial capacity was increased, and that there was a relative hydrocephalus, especially that *the left ventricle* was enlarged and the amount of cerebrospinal fluid was increased. (Reichardt, Zeit., f. Psy. 75, p. 34-103.)

In the following years the evidences of a pathologic condition of the brain and other organs of the body developed until we can now give a fair description of its pathology and histopathology correlated to the symptoms of the disease. (v. Southard, Gurd, Rawlingson, Mott, Husciani, v. Dementia Praecox Studies, Vol. II to Vol. V.)

With diagnostic physical, chemical, thermal and electric findings the literature was almost equally silent in 1908.

The condition of the capillary circulation had been noticed and this was generally attributed to the inactivity and the catatonia of the patient. The dilated pupil was noticed and occasional mention was made of other pupillary abnormalities. Some Italians had noticed the excessive low blood pressure of the early cases, among youths where a low blood pressure is to be expected. There was reported occasional sudden death and even rupture of the heart without any obvious external cause. These events sometimes gave rise to confusing legal investigations, during which the existence of myocarditis was brought out. There was just enough clue in the literature to keep the flair of research acute, the pursuit interesting and to prevent utter discouragement when a lead ended in a succession of negatives.

Then in 1913 I fell upon the German translation of A. Justschenko's summary of psychiatric research, which I translated into English, but was not able to publish.* It arranged in a systematic manner the physical, chemical, serological and biological findings already discovered in the insane.

The efforts which I had made to arouse the state psychologic institutes of Illinois, of Michigan and of New York to undertake research on dementia praecox had proved unavailing and it appeared impossible to activate the only endowment that had ever been made for research into the cause and possibility of cure and prevention of dementia praecox. (v. Dementia Praecox Studies, 1918, Apr. No.) Therefore, I sought aid from the Commissioners of Cook County, under the presidency of Peter Reinberg, and in January, 1917, they appropriated $7,000 and the service of the Psychopathic and of Cook County Hospital for serious research. With two paid men and several volunteers and the hearty support and coöperation of Dr. Adam Szwajkart, the head of the Psychopathic Hospital, who never ceased in enthusiasm for the laboratory, we established an exclusive research laboratory seeking the condition, the cause and the cure of dementia praecox. It was a great adventure and the laboratory ward of ten beds was always full of interesting cases. The friends of many other patients begged to have sons, brothers or husbands admitted for experimental study and treatment. We were greatly restricted by lack of funds for the chemicals and apparatus as well as by the inherent complexity of the problem. Most of the patients were free, a few paid the hospital ten dollars a week and fewer still paid one laboratory fee of fifty dollars.

It is not possible in this short article to recount the devious course of our single year of investigations. The war and other inimical influences brought the appropriation to an untimely end. The amount of new work done was, however, very considerable. Some of these investigations on individual patients have been recorded in full in "Dementia Praecox Studies," in the "Alienist and Neurologist" and in other medical journals. In the end we had evidence satisfactory to ourselves for the construction of the following working theory which can be grasped by any sympathetic person of some experience with disease and some knowledge of the insane.

Précis

Dementia praecox is an intoxication affecting the brain, the choroid plexus and other glandular organs of the body, particularly the testicles in males and the ovaries in females. The cerebral lesions are in the nerve cells and are recognizable histologically only when the irritation of the toxine has been so protracted or so acute as to produce cellular destruction. The glandular involvement, especially that of the generative portion of the sex glands, may be due to the primary toxaemia or to the intoxication which follows nature's effort to rid the body of the broken down, nervous tissues. (Carlo Ceni.) The fact of a toxaemia is demonstrated by clinical and pharmachological evidence only. That is to say, the toxine itself has not been chemically demonstrated in the blood nor has its catabolized residue been found in the urine. Adequate researches have not yet been made in these directions. Clinically there are indubitable evidences of a severe toxaemia. The reaction time for sight, touch and hearing is lengthened and abnormal pupillary and retinal findings are prevalent. (Blinn, Bumke.) Basal metabolism is often enormously increased, and the thyroid shows very general hypertrophy, so much so that it has been occasionally attacked by surgeons and has been looked upon by some encrinologists as a possible primary fault. Tachycardia is conspicuous on exertion, and low blood pressure is the rule—low even for the young. The skin shows a multitude of symptoms of toxaemia. The odor of the perspiration is conspicuous and suggestive. The sebum is excessive especially above the collar and in the scalp. The beard on the face of boys becomes patchy and the patches are separated by sharp demarkations. There is pronounced dermographia over most parts of the body, often long lasting. The hair on the legs below the knees seems to grow excessively. The nails, especially those of the thumbs and big toes, exhibit contemporaneous transverse grooves and ridges suggesting periods of diminishing and increasing nutrition. If the beard of such a patient is shaved at regular intervals it will be found to have grown more rapidly during some periods of improvement than during other periods of decline. There also appears a characteristic edema of the skin with cyanosis and in severe cases even gangrene. (Morel, Dide.) This is noticed most often upon the arms and legs, the feet and hands, but it does occur on the face. Since any and probably all the endocrins are affected by the toxic element either to increase, diminish or pervert their functions, we observe skin symptoms which may be attributed to each possibility—the skin of exophthalmic goiter or that of Addison's disease.

The interstitial portions of the sex glands are tardily affected, if at all, as histologic studies have shown. The shrinking of the testicle, which is generally less than one half the normal weight, may destroy the interstitial cells by sclerosis and pressure atrophy alone.

Blood Chemistry

The histology of the blood marks the patients as toxic and ranges them with Osler's disease. There is a concentration of the blood, increased viscosity, and great increase in the number of red corpuscles, 6,000,000 to 8,000,000 erythrocytes, with only 6,000 to

*A few copies were typewritten and made accessible in large medical libraries.

10,000 leucocytes. The number increases with exacerbation of the disease and on the other hand when sudden betterment appears the number of red corpuscles just as rapidly approaches normal. (Kahlmeter, Lundvall.)

The blood chemistry of dementia praecox patients has never been systematically carried out on an adequate scale, coördinated with other examinations, but enough has been done to excite the greatest interest. Haemoglobin is increased and in a few cases methaemoglobin or sulphhaemoglobin have been recognized. The defensive ferment reaction of Abderhalden suggests catabolizing ferments for cerebral tissue, the sex gland, the thyroid and often other endocrine glands and organs. These reactions are not to be considered as solitary diagnostic signs, but as indicative of the diffuse action of the toxine. Thus, the origin of the high haemoglobin index, the polycythaemia, the cyanosis, and the low blood pressure appear consistent with a disturbance of the efficiency of the circle of detoxicating endocrine glands, acted upon by a particular sort of toxine not very unlike the toxines that come from latent or occult infection of teeth, tonsils and the closed cavities of the body. (Cotton.)

The adrenalin reaction suggests the sort of toxic substance with which the patient is overcome. When 0.5 cc. of 1-1000 solution (P. D. & Co.'s) adrenalin is injected into the deltoid muscle of a dementia praecox patient, the low blood pressure goes down still lower. When a few (3-7) drops of the same solution is dropped into the conjunctival sac of one eye of a dementia praecox patient and the patient kept quiet in the dark for half an hour or more, the pupil of the treated eye will be found more dilated than that of the untreated. This resembles the adrenalin reaction of an animal or a man to whom a large dose of ergot has been previously given, or to whom a proportionate dose of histamin (beta iminazol ethylamine) has been given.

A large proportion of dementia praecox patients, regardless of the duration of sickness, give the clinical symptoms of spasmophilia. The Trousseau, the Chvostek, I and II, and the von Pirquet peroneal are generally constant over long periods of observation (del Rio). No adequate estimations of the Ca content of the blood in these patients has yet been made.

If a barium meal is given dementia praecox patients, no retardation or evidence of motor inefficiency is observed in the stomach or small intestine, though a few cases show cardiospasm and pylorospasm. Nearly every patient shows spasm of the ring of Cannon. This ring is rarely observed in man. It is about two or three inches to the left of the hepatic flexure of the colon. The barium meal is observed in dementia praecox patients to remain in a liquid state in the cecum for fifty-four to ninety-six or more hours—in a few cases for weeks. During all this time there are daily movements of the bowels. This condition, cecal retardation, is a major symptom.

Now, with this outline, if a physician tries rationally to regulate the condition by use of belladonna to relieve the spasm, laxatives and purgatives to empty the cecum, calcium and magnesium to diminish the spasmophilia, he will produce little betterment, though he will meet obvious indication.

Appendecostomy, Followed by Daily Irrigations

Appendecostomy, however, has been very effective when followed for months or years by daily irrigations of the cecum and colon with ten quarts of warm water at bed time. This operation was perfected for the treatment of amoebic dysentery and can be done by any surgeon. Of course, all infected teeth, tonsils or other foci of infection should be first removed before appendecostomy is performed. The appendix should be well healed before the irrigations are begun.

Ten days or so after the operation the patient should sit on the water closet stool. A pail holding ten quarts of warm (110 degrees F.) water should be hung three feet above the level of the stool and connected by a small rubber tube to an inch and a half of small catheter, just large enough to slip through the appendix into the cecum. The water is allowed to run into the cecum until it is full and begins to give uneasiness. This is about 600 cc. as a rule. The flow is stopped for a few moments and shortly a squirting sound will be heard at the ring of Cannon as the cecum empties into the transverse colon. Then the flow is allowed to go on. The cecum fills up again and empties more easily and quickly into the transverse colon. Shortly the rectum is emptied into the water closet bowl. This process goes on for twenty minutes to half an hour when the last discharges are relatively clean. Every night, four and a half hours after the last meal of the day, this process is repeated, and it should be followed up as long after it is begun, as the patient has been sick before it is begun. In some instances improvement appears almost at once, while in others absolutely no change is noticed for months—in one patient only after five months' faithful nightly irrigations. And yet this patient has remained well and at work since the summer of 1917. He was the second patient treated. (v. Dementia Praecox Studies, vol. II, case of Eldon Duggan.)

It is impossible with the present condition of our ignorance of the disease to foretell which patients are likely to recover or improve by this method of treatment and which ones will fail to be benefited. It certainly does not depend on the severity of symptoms or the duration of the disease. Patients sick

(*Continued on page* 518.)

The Relation of the General Practitioner to Mental Disorders

By Samuel W. Hamilton, M.D.,
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"All power of fancy over reason is a degree of insanity; but while this power is such as we can control and repress, it is not visible to others, nor considered as any depravation of mental faculties; it is not pronounced madness, but only when it becomes ungovernable and apparently influences speech or action." (Johnson: Rasselas, Chap. XLIV.)

When power of fancy over reason becomes ungovernable and apparently influences speech or action, the patient's mind changes from normal to abnormal—he becomes a menace to himself and others, as is verified in this, Dr. Hamilton's classical paper.—Editors.

THERE ARE TWO handicaps in handling mental disease under which many of us labor in general practice, both of which are regrettable, and from one of which the next generation of medical men should be freed. I refer to lack of time for long sittings with our patients and to lack of competent instruction about mental disorders in the medical schools. To speak of the second first, I am sure that many physicians have not cultivated an interest in mental troubles because in medical schools they were given only didactic instruction about such matters, and never came in personal contact with the patients, and furthermore acquired from older medical men the feeling that mental disorders are obscure, have no close relation to normal mental life and cannot be treated with any degree of satisfaction. This attitude of mind would be sterile even if founded on fact. Fortunately it is erroneous and many—by no means all—of the medical students of today have more and better teaching than we enjoyed.

The other handicap is that the general practitioner has many and varied demands upon his time. He is in no position to sit down for half an hour or an hour to talk with a patient whose remarks may be veiled by distrust, evasion and unintelligible symbolism—and then repeat this on various occasions for weeks. There are, of course, other obstacles to the care of mental disorders by the general practitioner, such as the perturbing effect of a mental patient on the household, the need of very detailed care in many cases and the inability of the ordinary family to look after their sick relative by day and by night without wearing themselves out and annoying the patient beyond the bounds of self-control.

A Polyphased Problem

Mental disorder is, of course, very frequent. It is not a unitary disorder, but may be found as a symptom of everything from cold in the head to tertiary syphilis of the brain. Its treatment is sometimes merely incidental to treatment of the general disease. In other cases there seems to be no general disease and the mental state, being purely a disturbed function of the brain, must be treated so far as possible by bringing to bear favorable influences on the mental processes. In still other cases, as general paralysis and some senile disorders, the treatment is merely ameliorative and there is no more prospect of a favorable outcome than there is from an inoperable cancer.

In what is said about the mentally disturbed in their homes, I am not presuming to offer anything but general advice. Those of you who have had experience with such cases will perhaps hear corroboration of measures that you have already used successfully. Those who do not feel equipped to deal with such matters will of course seek competent advice from your consultants.

The Deliria

Concerning the deliria, not much need be said. You are told by the nurse or relative that the patient seems at times not to be himself. You notice his wandering attention, his tendency to become detached from his environment, to see and hear things that do not exist, the mood usually somewhat depressed and a desire at times to get out of bed and perform some errand for which there is no need. I suppose that delirium could be induced in any one of us by excessive heat and deprivation of drink. At any rate no one seems immune to delirium when seriously ill, and children and some adults easily fall into it with even slight illness. It demands constant watchfulness. In the aggregate, many a case of typhoid fever or pneumonia has come to his death because of a wild act committed in delirium, and families should always be warned—as indeed they are—that such patients should not be left alone no matter how quiet they may be at the moment. Depending on the concomitant physical symptoms, one may or may not prescribe baths or packs.

A medical friend and former assistant of mine when ill recognized that he was becoming delirious, and having observed the beneficial effect of the pro-

longed bath on restless patients, he gave the necessary instructions to the household so that he himself could receive such a bath; he told me that he felt calmer very soon after they had placed him in the tub.

Mental Disturbances in the Aged and Apoplectic

Mental disturbances are not infrequent among the aged and in cases of apoplexy. Restless old people are particularly trying in the ordinary household. We repeatedly learn that the patient was managed fairly well during the daytime, but at night he got up, rambled around the house, was in danger of falling downstairs, and disturbed everybody's sleep. The family did not feel justified in locking him in his room, not knowing what mischief he might get into there, so, much against their wishes, they placed him in an institution. Oftentimes the family are in position either to engage an attendant for the nights or perhaps one of their own members can change her manner of life, sleep through the day and remain up at night. Under such circumstances the care of these patients may not be at all difficult. With a light burning in the room and someone at hand to talk and to guide the patient if he must go to the toilet or dissuade him from trying to go out of doors, he will not be impossibly restless at night and will even get a fair amount of sleep. Meanwhile the rest of the family are not disturbed.

General Paralysis

General paralysis furnishes in metropolitan districts a quarter of the male admissions, and eight to twelve per cent. of the female admissions to the ordinary hospitals for mental diseases. Like syphilis of the skin, syphilis of the brain may simulate any other disorder of that organ. But even when the mental symptoms are at first obscure, physical signs and serological findings in the blood and spinal fluid as a rule make the diagnosis clear. We also know that a large number of these cases never go to a hospital. I once saw a farmer with general paralysis so advanced that his orientation was disturbed and he could not control his sphincters, but nevertheless he drove the milk wagon three miles every morning. It had not occurred to the family that he was endangering his own life and jeopardizing others. Probably the horse did most of the driving.

It would be impossible within a few minutes to describe the various types of onset of general paralysis, but when a middle-aged man is found losing his ethical sense, acting otherwise queerly and showing changes in pupillary and tendon reflexes, one should at once seek all other necessary diagnostic criteria, and then take steps to prevent the patient from dissipating his property, disgracing his family and endangering the welfare of the community. Not long ago a prosperous barber with well-marked general paralysis was so engaging in his conversation and so pleasant in his manner that even his wife found it difficult to think him on the road to mental decay. His plan for a trip to South America seemed to her within the range of possibility, and only an extravagant excursion to a seaside resort with an act of unfaithfulness there convinced her that he was really a sick man. Even then some of his relatives could see nothing abnormal in his conduct on that occasion. You recall that a general paralytic attempted the life of Mayor Gaynor of New York and did seriously and permanently impair his health by a shot through the lung. In such cases hospital treatment may not be necessary but it is usually advisable. In a hospital many such patients quiet down and are able to go home with a fair prospect of remaining there some months with a degree of medical supervision.

Acute Cases

Every day cases of acute mental disorder come to light. Without regard to the particular label that one may affix, let us think of these as being excitements which may lead to wild extravagance of conduct but whose termination may as well be in recovery. Obviously they deserve the very best nursing. The relatives are apt to keep such patients at home just as long as possible and perhaps longer than the welfare of the patient would justify. It may not be true that all cases of mental disorder should be taken forthwith to a hospital, but in many cases neglect is fraught with grave consequences to the patient. Occasionally a well-developed case of excitement runs its course in a week or two, but usually the duration is much longer and early action should be taken to assure the patient of the best care that the community can give him. If you advise that the patient be kept at home, you will, of course, make sure that he is under constant observation day and night.

I believe that useful lives are sometimes lost because the physician yields to the prejudices of the family, agrees to treat the patient at home and gives an inordinate amount of sedatives. Sedatives are extremely useful in the right place and quantity, but are quite as dangerous as digitalis if abused.

Dementia Praecox

There is a large group of cases ordinarily called dementia praecox, not a coherent group, but in a general way embracing cases of loss of normal interest with substitution of an imaginary world. Many of these patients go years without entering a hospital. Some are tramps; some are queer members of families which are able to seclude them. In certain instances the family gives such patients as good care as they could get elsewhere, but one should always question seriously whether the flagging interest could not be aroused in a hospital which has special measures to bring to bear on its mental patients. To be sure, many such patients sink into torpor in a hospital either because they are not rightly handled or because no effort breaks through

their wall of indifference, but one might expect and I think sees better results in this direction in a hospital than among cases which are kept at home without the formulation of a definite program of treatment.

The Depressions

Last we may speak of cases of depression. These are found at all ages. The seriousness of mental depression is often unrecognized by the relatives and sometimes not even by the physician. The relatives prescribe the theatre and the physician sometimes tries to encourage the patient by telling him to forget it. Well meaning efforts at producing a more cheerful state of mind are foredoomed to failure. The family does not and cannot be expected to appreciate the dangers of suicide. It is seldom practicable in the home to keep the patient under constant observation. I recall the case of a wealthy manufacturer who took a long trip or two, had plenty of medical attention and almost every care that was conceivable. We warned the family that suicide might be attempted and that the patient must always be under observation and they thought that he was, but of course in his grade of society it is customary to shut the door of the bath-room when one goes in, and in this case, as in many others, tragedy was consummated in the bath-room. It is often difficult to predict an attempt at self-destruction, but every depressed patient should be considered a potential suicide.

If you decide that the patient should go to the hospital, how to proceed? Start by warning the family against deception, misrepresentation and falsehood. Few things are more pathetic than the plight of the mentally afflicted, who in the hour of his greatest need is deceived and lied to by those in whom he should be able to trust implicitly. They excuse themselves on the ground that they are making it easy for the patient, but in fact they are trying only to make it easy for themselves and at his expense.

If the patient can be persuaded to go to the Philadelphia General Hospital with his relatives or a physician and sign an application for treatment, he may be detained for three days, even against his will, and during those three days, examination and commitment may be secured. Many patients can easily be persuaded to take this step, and when in the hospital will be contented to remain during any period of observation that may be advised.

If the patient is recalcitrant and it is necessary to secure his commitment to an institution, in Pennsylvania, two physicians who have been in practice five years must see him and make a separate, personal examination and write out a certificate on the form which can be obtained from the Department of Public Health, City Hall, Philadelphia. Similar provisions exist in other states. The form is simple and can easily be filled out if the personal examination is made, but it is both outrageous and illegal to commit a person as insane on the say-so of someone else. The certificate in Pennsylvania must be made out within a week of the examination and within two weeks of admission. When the certificate is made out the physicians must go before a magistrate, sign the document in his presence and secure his certificate to that effect. The magistrate's certificate is already printed on the commitment form. Armed with this document the relatives can insist that the patient enter the hospital and the hospital can insist on his remaining. A private ambulance or a taxicab or even a trolley car may be sufficient transportation.

Perhaps the patient has no interested friends and the public authorities then must be appealed to to secure his removal to the hospital. Unfortunately, he may then become a charge of the police. A man who breaks his leg on the street is bundled off to a hospital whether he will or no and without interesting the police in the matter, but the unfortunate insane person does not in our city receive the same consideration. Provision has, however, been made so that the question of his removal is a medical matter. Such cases, friendless or too poor for private medical advisers, are to be reported to the district physician, whose name can be learned at the nearest police station. He sees the patient and on his order the police patrol calls and removes the patient.

With the patient in the Philadelphia General Hospital you still have one function to perform. Try to persuade the family to follow the advice of the physicians of the Psychopathic Department. Relatives are prone to change their minds and want the patient out as soon as he is in. Sometimes they will listen to you. Our colleagues in that department may be depended on to act for the patient's welfare.

The Diet in Bright's Disease Complicated by Diabetes

Editor THE AMERICAN PHYSICIAN:

I am becoming increasingly fond of THE AMERICAN PHYSICIAN. The article on Injuries of the Elbow, by Forbes, was especially good and worth the subscription price.

I wish some physician would write on this question: How would you diet a case of diabetes mellitus complicated with chronic Bright's disease? What is good treatment in nephritis might be contraindicated in diabetes. Is senile diabetes properly dieted by allowing the ordinarily forbidden things in moderation?

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Emergencies in Obstetrics

These cases require quick, daring, dextrous action

By Chas. Mazer, M.D.,
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An obstetrical emergency is like a smouldering fuse of the danger-laden bomb—in either, quick, daring, dextrous action is pressing, or the bomb explodes and the patient dies. With this in mind, Dr. Mazer's paper, short, clean-cut, comprehensive and practical, we believe will be appreciated.—Editors.

THE MOST IMPORTANT emergencies in obstetrics are three: post-partum hemorrhage, rupture of the uterus, and eclampsia.

Post-partum Hemorrhage

I have nothing original to suggest in the treatment of post-partum hemorrhage. It is my intention to emphasize the importance of being prepared to act promptly and effectively when the contingency arises.

Obstetrics is still largely in the hands of the general practitioner who, with few exceptions, undertakes the delivery of his patient with nothing but a few hemostats, a pair of scissors and some suture material. It is to him I wish to carry the gospel of preparedness, for his peace of mind and for the safety of the woman whose life is entrusted to him.

Every physician knows that the most effective method of promptly checking a severe post-partum hemorrhage, following the delivery of the placenta, is to tightly pack the uterine cavity and vagina with sterile gauze. For this purpose he needs a tenaculum, a pair of gloves, a uterine dressing-forceps, and a five-yard package of gauze, all sterile and ready for immediate use. It is also common knowledge that, in case of severe hemorrhage before the third stage of labor is completed, prompt delivery of the placenta, either by Credé expression or intra-uterine manipulation, is imperative as a preliminary to packing.

Preparedness

Why do so many physicians completely fail to avail themselves of the opportunity to save human life and avoid prolonged morbidity? The answer to this question is unpreparedness. He hesitates to invade the uterine cavity in a woman whose external parts were not shaved and sterilized; he hesitates to invade the uterine cavity without sterile gloves and sterile instruments. The fear of infection prompts him to temporize with uncertain methods until the loss of blood causes either death primarily or leaves the woman in such a state of lowered resistance that she falls a prey to even a mild infection. The best trained physician, without the proper preparation to meet such an emergency, is as powerless as a midwife. No delivery should be undertaken without the assistance of a person trained in aseptic obstetrics. The character and uncertainty of obstetric work on the one hand, and the prevalent scarcity of nurses on the other hand, make it difficult to procure trained assistance during delivery at the patient's home. To solve this problem a number of physicians in Philadelphia have succeeded in training midwives as assistants during deliveries. The advantages of having the same nurse for every delivery is apparent. She quickly learns your technique and follows it minutely.

Pituitrin and Forceps

The busy physician resorts to the use of large doses of pituitrin or to the application of high forceps before the cervix is completely dilated, thus producing extensive cervical lacerations and consequent hemorrhage. The injudicious use of pituitrin also causes uterine inertia, which adds to the danger of post-partum hemorrhage. The presence of an able assistant whom he can leave with his patient during the long and tedious hours of the first stage of labor removes the temptation to terminate labor through the use of pituitrin or the application of forceps before the cervix is completely dilated and the presenting part well engaged.

Rupture of the Uterus

Rupture of the uterus gives rise to concealed hemorrhage. It should always be suspected when dealing with a post-partum hemorrhage. The manual evacuation of the uterine contents (blood clot or placental tissue), which should precede the packing of the uterus in post-partum hemorrhage, should also include a careful examination of the uterine walls, less a rupture remain undetected.

It is a safe rule to explore the uterine cavity with the hand at the termination of every labor that has necessitated intra-uterine manipulation. The objection to this procedure on the ground that it may result in infection is overcome by the fact that the uterine

* Read before the Medical League, February 4, 1922.

cavity has already been invaded. I believe that every obstetrician of experience sees an occasional death attributed to shock or hemorrhage which is really due to a rupture of the uterus.

With the advent of pituitrin the frequency of this accident has greatly increased. I refer to the indiscriminate use of the drug which, in the hands of the trained obstetrician, is an invaluable agent. The rupture due to the abuse of pituitrin is usually a lateral tear of the lower uterine segment, running up from the cervix into the broad ligament with a resulting hematoma.

Syphilitic women are especially prone to rupture of the uterus, and the administration of pituitrin in these cases should be avoided. Attempts at high forceps delivery or version before complete dilatation of the cervix are frequently the cause of this accident.

The lower uterine segment is thin and non-contractile. When, for any reason, the contractions of the body of the uterus are not able to cause the descent of the fetus, the distention and thinning out of the lower uterine segment may become alarming, as evidenced by a very thick and very high contraction ring and the appearance of a mass below the umbilicus that closely resembles an overdistended bladder.

The diagnosis of a ruptured uterus must be made before the appearance of shock if the patient's life is to be saved. The time consumed between the onset of shock and the placing of the patient on the operating table is too long if the accident occurs outside of a well-equipped hospital.

The shock is not due to the rupture of an abdominal viscus, but rather to the loss of blood that ensues, hence there is an interval (occasionally of several hours) during which the patient should be transferred to a hospital for an abdominal section.

A sudden cessation of uterine contractions should call for a careful abdominal and vaginal examination. The presenting part, usually the head, recedes, the hand introduced into the uterus may palpate the rent. Abdominal palpation will usually reveal unmistakably an altered condition in the abdominal cavity. Unusual sensitiveness to the palpating fingers is frequently present.

The Following Two Cases May Be Illustrative

Case 1. Mrs. B., aged 34, para IV., was known to be a syphilitic. She fell in labor at term. The fetal head was partially engaged, the cervix not fully dilated, the membrane ruptured. The uterine contractions were weak and frequent. She was given a half C.C. of obstetrical pituitrin, which was followed by one fairly strong pain. The patient remained perfectly comfortable, but vaginal examination disclosed that the presenting part receded. Further investigation showed the fundus much above the level it occupied previously. She had no abdominal tenderness, her pulse was still very good. The ambulance of the St. Agnes Hospital was hurriedly called, but when the patient reached the operating table she was in a moribund condition. While Dr. J. C. Hirst operated on her, she was given three thousand C.C. of salt solution intravenously. The rent in the uterus was large enough to permit the escape of the fetus into the abdominal cavity. Seventeen days following the hysterectomy, the patient left the wards of the hospital in good condition.

Case 2. Mrs. D., aged 28, para VIII, was in labor many hours with a breech presenting. The physician in attendance called for assistance. I found a short and stout woman with a pendulous abdomen. Uterine contractions were excessive. The uterine wall was suspiciously thin. I made no vaginal examination, but began feverishly to prepare for the extraction of the fetus. Suddenly, the uterine contractions ceased. Vaginal examination failed to reveal a presenting part in spite of the fact that the physician in charge was able to diagnose a breech presentation several hours preceding my examination. The crest of the abdominal tumor was unmistakably on a higher level. I hesitated to make an intrauterine exploration for fear of adding to the danger of peritonitis. In view of the fact that the patient was in good condition, my friend very reluctantly consented to the removal of the woman to a hospital. I met with greater opposition on the part of the ambulance surgeon. When she arrived at the hospital it was not before the lapse of several hours when she was finally put on the operating table in a condition of severe shock—the train of symptoms they were waiting for to make the diagnosis certain. She had a very prolonged and stormy convalescence.

Eclampsia

One of the most dramatic emergencies in obstetrics is undoubtedly eclampsia. We shall not enter into a discussion of the source of the toxemia. Whether it is of gastro-intestinal origin, the result of disturbances in the glands of internal secretion, or of fetal origin, is immaterial as far as the treatment of the actual state of eclampsia is concerned.

The patient is suddenly seized with a convulsion, the control of which is of prime importance. This is best accomplished by the liberal use of morphine; an initial dose of ½ gr. is given, repeated in ¼-gr. doses every hour until convulsions have subsided or at least diminished in frequency and severity.

The experience of the best minds in the profession is that the chances of the eclamptic patient are improved by the emptying of the uterus, provided this can be done without profound shock or grave injury.

Post-partum eclampsia runs a much milder form than eclampsia that begins before or during labor. The loss of blood that accompanies the process of delivery is perhaps the explanation. If the patient

is in the first stage of labor with an obliterated cervical canal or dilatable cervix, manual dilatation should be employed and delivery accomplished by version or forceps.

Ether, with an admixture of oxygen, should be the anesthetic of choice, as it has been clearly shown by competent investigators that chloroform produces lesions of the liver and kidneys similar to those in eclampsia.

Whatever the source of the toxemia, the liver is the organ of importance in ridding the system of toxic products.

As shown by Titus and Givens, the intravenous injection of glucose serves rapidly to restore the depleted and damaged liver cells. It is stored up as glycogen, and the liver is thus fortified to cope with the toxemia. Titus and Givens have reduced the mortality of eclampsia through the use of glucose from 29 to 15 per cent.

If the blood pressure is above 160, I would precede the intravenous therapy by the withdrawal of twelve ounces of blood.

The stomach should immediately be washed copiously and 3 ozs. of castor oil and 4 mm. of croton oil introduced through the stomach tube. Next is the irrigation of the bowels with a warm solution of sodium bicarbonate, and a hot, dry pack is given every four hours.

What, in all probability, decided the issue between life and death in a recent case of eclampsia I had at the St. Agnes Hospital, was a lumbar puncture. The cerebro-spinal fluid was under such tension that it spurted for several minutes in spite of the fact that the patient was in the recumbent position. The incessant convulsions ceased with the withdrawal of a large quantity of cerebro-spinal fluid. It is my belief that this measure deserves a wider application in the treatment of eclampsia.

I do not agree with the advocates of immediate Cæsarian section in cases of eclampsia preceding labor. It seems more logical to suppress the convulsions, reduce the blood pressure, and establish an active elimination before venturing on the hazardous task of a Cæsarian operation. The giving of large quantities of water by mouth, or by hypodermiclysis, is of utmost importance; also the utilization of the oxygen tank during convulsions, and the open window between attacks, should not be forgotten. The patient, however, should remain well covered, and surrounded by hot-water bottles.

The presence of large quantities of urine in the bladder, and even the absence of albumin and casts, should not be taken as indicating a favorable outcome.

The hepatic form of eclampsia is more severe and renders a greater percentage of fatalities.

"Blood-Pressure"

NEEDLESSLY ALARMING LAYMEN

EDITOR AMERICAN PHYSICIAN:—

Every cultured physician knows that, from the hour of birth to the hour of death in old age, numerous factors cause frequent variations in blood-pressure and that these variations are purely physiological, beneficent and conservative. Every tissue of the body demands a constant supply of blood, and death will be the result if this demand is not satisfied; whenever from any cause the peripheral resistance to the circulation is increased, it is absolutely necessary that the blood-pressure should be increased to overcome the resistance. This is the vis medicatrix naturæ, and whoever interferes with this wise provision of nature is guilty of wrong practice. The widespread craze over what laymen call "blood-pressure" has terrorized thousands of men and women, and made their lives miserable and wretched when told that their blood pressure was too high, and that the sword of Damocles was suspended over their heads by a single thread and liable to break at any moment.

Many thousands of healthy men and women have fallen victims to this craze by the use of aconite and veratrum and other heart depressants in combating this conservative rise of blood-pressure, which nature employs to overcome peripheral resistance to the circulation. Every enlightened physician knows that in every human being there is a perpetual conflict between the animal and vegetative tissues of the body, and that in old age sclerosis and degeneration are inevitable. Certain diseases hasten the process of retrograde metamorphosis, and with advancing age the elastic arterial trio become rigid and offers greater resistance to the circulation, and were it not for increasing blood-pressure life would be impossible. Happily, the wise physician is now in possession of the means to delay the progress of sclerosis and, by his art and his science, he can assure the old man and the old woman a complete cycle of existence.

Let us hope that this destructive epidemic of malpractice, combating a wise provision of nature, will soon subside.

T. J. BOWLES, M.D.

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Ever since vaccination against smallpox had succeeded in preventing the disease when properly and universally used, there have been hopes among medical men that similar methods of preventing other infectious diseases might be found. Vaccination against typhoid fever is a recent realization of the hope. We now appear about to have a new demonstration of an efficient method of vaccination against a very fatal disease, i. e., diphtheria.—*G. H. Weaver*, M.D.

Treating Sequelae of Fractures

by

Physical Measures

By WILLIAM MARTIN, M.D.,
Maryland and Pacific Avenues, Atlantic City, N. J.
Late President of the American Electrotherapeutic Association.

Dr. Martin, in this excellent paper on the use of electro-mechanotherapy in the prevention of the disastrous after-effects incident to improperly treated fractures, narrates how a patient would meet his doctor in the street and silently and scornfully hold up his ankylosed arm—to the natural displeasure of the physician in question. It is to prevent such "monuments" that we recommend the utilization of the methods advocated in this well-written paper.—EDITORS.

FROM TIME IMMEMORIAL fractures have been the source of trouble, and no doubt will always so remain unless some method of treatment and after care can be devised that will be "fool-proof." It is not a very rash statement to make that perhaps there never has been nor ever will be a physician who has not had or will not ever have trouble from this source.

There are so many good reasons why fractures may cause both mental and physical stress, many of which the physician has absolutely nothing to do with, and are therefore entirely out of his control. There are other sources that he does control, such as the use of improper splints and the overlength of time of retaining the splint in situ, as well as the improper after-care subsequent to the removal of the splint.

Owing to the fact that bad results do follow one cause or another, it would seem fitting that we consider some method or methods of overcoming these, both from the standpoint of the patient and physician, both of whom are rather solicitous, one from the cosmetic and useful side and the other from reputation and possible suit for damages.

Bad Results

Those of us who remember the younger Gross (familiarly known as Sam) will perhaps recall his statement in his lectures on fractures about his "monument." He told of one of his patients whose arm he had set and by some inadvertence the result was rather disastrous, so that whenever he met the patient on the street or elsewhere the patient simply held up his arm to view without any words or look of recognition. This was his "monument," and no doubt many of us have such monuments to hand down.

While the average physician of this day may make less mistakes in fracture cases, at times in spite of everything he may do he will have a "miss" or "slip up," and a bad result be the outcome. How to best get rid of this condition is a matter of judgment and experience. Massage and passive motion have been used for generations for this purpose and have served fairly well in some cases, but if there is a better way, why not use it? This brings us to the point. It is not the purpose to consider all sequelæ, but those only that most frequently occur. Of these stiffness, contractures and ankylosis are perhaps the most common.

Stiffness and Contractures

Stiffness of the fingers and contractures of fingers and wrists and the like are usually the result of a too long application of splints without their removal, at times, for massage and passive motion. Not only do the phalangeal joints become contracted by ligamentous contracture, but the joints become ankylosed after a time, thus offering greater difficulties to recovery. In this condition the only remedy would seem to be the use of some active mechanical measure. This would suggest the use of the static wave current and vibration, the two most active measures of that type. It is usually found that the muscular and ligamentous rigidity are not confined to the fingers in the arm cases, but will extend and involve pretty much all of the forearm, therefore the treatment must include this as well.

Static Wave Current and Vibration—Technic

For the benefit of those who are not conversant with the treatment, a short sketch of the method will be given. The two sliding poles of the static machine are pushed together before the machine is started. The patient sits upon an insulated stand, connected by wire attached to a metal electrode to the positive pole of the machine, while the negative is grounded. As the machine is started, the poles are slowly and carefully separated. The spark jumping across the gap thus produced gives the effect of a back and forth surging or wave, the actual effect being a contraction and relaxation of the muscles and ligaments, the amount of this being according to the width of the spark gap. When the machine is run slowly, these contractions and relaxations are in consonance, and unless there is a sore

nerve underneath the electrode there will be no pain. That most of these cases do hurt under the treatment is because there is some inflammatory condition present, which keeps up the nerve sensitiveness. In the event of such pain, the amount of current should be gauged by the patient's tolerance. After the proper time of this treatment is over, the part is thoroughly sparked by the use of what is called indirect sparks. In giving these, the machine is fixed differently. The poles are drawn far apart, with the negative grounded. The positive is connected to the platform by a metal rod, usually crook-shaped. The patient seated or standing, the physician applies sparks from a sparking electrode which is attached to a second ground chain, grounded separately from the other ground chain. As the operator approaches the part a spark jumps to it, causing quick and active contractions. The effect of both of these methods is to activate expression of the exudate from the tissues, if this is soft, or to break up adhesions, which are more or less organized. Naturally, when the latter condition is well advanced, the results will be slow. Aside from this mechanical action, we have some more or less active hyperemia which is of value. This latter is not as great as what can be produced by other methods which will be mentioned later. Nerve-cell restoration may be expected also as the result of this treatment, through cell gymnastics, thus measurably preventing atrophy.

Smaller Joints—Static Treatment Preceded by Heat

In case of the smaller joints such as those of the fingers, we use less current and smaller sparks, and these are directed by a special spark director, so that they are applied just where they are needed. To go into the exact technique of all of this treatment would take up so much space that it may be best to just touch upon it. It is considered good practice to precede this static treatment by the use of heat. This is best given from a therapeutic lamp, which may be from a fifty to a five-hundred candle-power lamp properly hooded so that the rays will be thrown in parallel and not in foci, as the latter will burn. The part thus heated to a very active hyperemia will respond much better to the other treatment. In passing, I will state that the usual baking done so much in hospitals is a very poor substitute for this, in fact it is of so little value that it has been discarded in private practice. Perhaps the time will come when hospitals will investigate other methods.

Ankylosis—Diathermy and Vibration

Another method of heating the tissues through and through is that by diathermy. This is particularly applicable to those cases where there is ankylosis, whether this be due to an infiltrate or exuberant callus. In the latter case we must apply diathermy of a greater amount of current and for a greater length of time. Under proper technique this callus will be absorbed. Diathermy followed by the static wave current and sparks will take care of the ordinary cases of stiffness and ankylosis. Many physicians now know what diathermy is, who know nothing of the other current applications. This has become more or less fashionable of late, but that is nothing against it, granting that it is used properly from all standpoints. To apply this one must have some knowledge of the physics of the current and have the proper metal electrodes, as well as to use the correct technique. The size of the electrodes must be in proportion to the size of the part to be treated, and these should be applied exactly opposite, so that the current will flow evenly through and not from the lower corners or sides of the electrodes, thus overheating a part and not heating the rest, with danger of a burn. Also one must bear in mind that the skin is a poor conductor unless it is moist, so that it is best to wet the skin or electrodes or both and apply them with some absorbent material, as a Turkish towel, to take up the excess moisture that might otherwise become steam and scald the parts. The amount of current should never be excessive in the average case, but generally is about 1000 am. for electrodes 3 x 5.

Vibration may be used in selected cases instead of the static wave, although it will not always act as well. It is, however, an excellent adjunct, but just as it is in all other matters, it must be done correctly in order to secure the best results. Not only correctly, but given from a vibrator that has sufficient power to make an impression upon the parts to be treated. There are many light vibrators in the market that are used in beauty parlors for skin massage, and that is all they are good for, and they will have no value in such work as breaking up ankylosed joints.

Abnormal Swelling of Tissues

Continued abnormal swelling of the tissues may be a sequelæ of fractures, which may be due to circulatory obstruction or it may be from an actual infiltration of denser exudates. If the obstruction of circulation is due to exuberant callus or from a localized exudate. the treatment outlined above will generally meet the occasion. If the callus is considerable, it may take long seances of diathermy with a fairly large amperage of current to absorb it. This may take a considerable period of time with daily treatments, but it is well worth the effort. If the tissues of the whole limb or a larger part of it are infiltrated with exudate so that both motion and all function are interfered with, it will be necessary to thoroughly heat the tissues through, and then apply the static wave current to the whole extent, and give a current to tolerance, with daily treatments. This will gradually express the exudate through the natural channels and gradually restore the part to

usefulness. The softer or more recent the infiltrate, the earlier the results will be secured, for a soft exudate will be more readily removed than will an organized one. When the nerve or nerves are caught in either the exudate or the callus, pressure pain will be the result. Here again the static wave current comes into play with excellent results, except when callus is the cause. Diathermy alone will meet this condition.

Paralysis of Parts

Paralyses of fingers, arm or other part may result from fractures from one cause or another, and these conditions are not always easy of remedy, as they are the result largely of long standing conditions. If from pressure due to callus or any other form of exudate, removal of this will necessarily have to be the first step toward recovery. The paralysis may be either a loss of motion or sensation, and sometimes will be of both. Following the removal of the pressure, we must activate the muscular and nerve cells as well as the circulation. Hyperemia by either of the methods mentioned earlier in the paper should be followed by the use of the constant current applied by the modern method. The early treatment was by the labile or stabile method of the plain constant current, which was not always satisfactory. Others used it by the interrupted method, which had advantages in stimulating the muscle action, but it always was most unpleasant to the patient, so that it was thrown to the discard by competent electrotherapists who now use the sinusoidal type of galvanic current. This gives the necessary muscular exercise, at the same time activating the nerve cells, and all without any unpleasant sensations. The pads used in this method of treatment are of two sizes usually, but not necessarily. The larger pad is the indifferent and the smaller is the active one. The large pad is usually applied upon the trunk near the juncture of the limb or over the spine, so as to include the nerve distribution, and the smaller one may be applied by either being bound to the extremity of the limb as, for instance, the fingers or toes, or it can be held by the operator and changed to various areas from time to time. This method will take in the whole length of the nerve distribution. The current strength is usually small at first as in all paralyses, and must be used with regularity and patience.

Non-union of Fractures

Non-union of fractures is not the most common of sequelæ, but it occurs often enough to be a matter for grave consideration. Non-union may be the result of various factors, all of which will be left out of consideration here, but the line of treatment will be similar in most cases.

The object to be gained is the throwing out of callus, and this must be gained by an activation of both the local circulation and the building up of the general system. Defective metabolic processes may be overcome by general measures, and the local condition should be treated by moderate doses of diathermy applied for moderate length of time at each treatment. It will be remembered that for excessive callus we use large doses of diathermy for their quick results in resolving, while in non-union we must stimulate the callus formation. This latter will result from gentle activation of moderate dosage, so it will be well to bear this difference in mind. In order that splints and dressings should not have to be removed for daily treatments, metal splints may be used that will obviate the necessity of their removal more often than is properly necessary. The connections can be readily made to such splints and the treatments given daily with ease.

There are many other complications and sequelæ that might properly be considered in such a paper as this, but as space must be thought of, such conditions as sluggishly healing ulcerations which may follow slow healing of compound fractures, and other sequelæ must be left for a subsequent paper.

Conclusion

In conclusion we may use the trite saying that prevention is far better than cure. If all surgeons or general practitioners would consider the possibility of the use of the static wave current for this prevention of many of the sequelæ, a great step forward would be made. By this I mean that when the usual time comes that massage and passive motion are indicated, which is early, the wave current applied to the part in a proper manner would relieve circulatory stasis, express the soft infiltrate through the regular channels, and restore nerve cell activity. This would do far more than can be possible under any other form of manipulation, and without disturbance of the fragments, as it is passive in a sense. It is the treatment par excellence.

A Case of Chorea and Erythremia

Lewis J. Pollock (J. A. M. A.), reports a case of chorea in a woman thirty-eight years of age, with no history of rheumatism, endocarditis, tonsillitis, or a former attack of cholera.

The blood showed erythrocytes 8.100,000, leucocytes 8,500, and a hemoglobin of 115.

She was given roentgen rays at weekly intervals, and at the end of a month was markedly improved. When discharged, after a sojourn of about seven weeks in the hospital, the red blood cells numbered 6,400,000.

Inasmuch as the erythremia persisted after the choreiform movements disappeared, the supposition seems warranted that the choreiform movements are not produced by any change in the blood but rather by a definite pathological condition in the brain, such as hemorrhage or thrombosis. The exact nature of such a lesion, the writer believes, will remain conjectural until histological study of such a case is made.

Prolapse of the Rectum

SURGERY OFFERS THE MEANS OF GIVING RESPITE, RELIEF AND POSSIBLE CURE

By CHARLES J. DRUECK, M.D.,
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Professor of Rectal Diseases, Post-Graduate Medical School and Hospital.

Few diseases are as annoying as is a rectal prolapse even if it is not, as such, fatal. Few diseases cause as much discomfort, misery, suffering as does this distressing disorder. To render the victim respite, relief, perhaps cure, we present this highly instructive paper of Dr. Drueck. The proctologist as well as practitioner, will not, we vouch, be disappointed with it.—EDITORS.

ANY PORTION of the bowel may invaginate into or through a lower portion, and in the pelvic bowel a complete prolapse may occur with or without the procidentia appearing externally. When the upper rectum or sigmoid intussuscepts, it may include a fold of the peritoneum. A prolapse of that part of the rectum above the pelvic floor may not present at or protrude from the anus, and, if it does not appear at the perineum, it can be recognized only by digital or specular examination. This suprapelvic prolapse accounts for many cases of intestinal stasis and of sigmoid accumulations.

Complete prolapse of the rectum is a far more serious condition than the partial variety because of the invalidism which it induces as well as the complications which are ever present. (Figure 1.)

Etiologic Considerations

Two different types of pathologic change contribute to produce procidentia.

1. Extreme mobility of the rectum and elongation of its supports may be the result of imperfect prenatal fixation or of traumatic conditions, either of which permit of constant dragging on the rectal attachments and supports. The intra-abdominal pressure exerted at stool is applied to the recto-sacral ligaments.

The uterus and rectum have a common means of suspension; therefore any cause bringing about the fall of one endangers the fixidity of the other. Hysterectomy deprives the rectum of the anterior support afforded it normally by the uterus. The weakening of the pelvic floor favors the prolapse of both of these organs.

The true pelvic floor is a fixed structure, but the fascial branches between these organs are suspensory stays, allowing considerable play. It is these rectal stays which offer the resistance during the straining at stool which is necessary to prevent displacement of the rectum. When these stays become flabby from repeated or excessive stretching they lose their contractile power and the organ they support drops away. A lacerated perineum destroys the fascia holding the rectum to the levator ani, and the powerful intra-rectal pressure soon pushes the rectal wall into the vaginal outlet. The protrusion in turn tends to further relax the musculofibrous structures.

2. In other cases a defect in the pelvic fascia permits a hernia of the pelvic bowel. This defect may sometimes be developmental.



Fig. 1. Complete prolapse of the rectum, showing concentric arrangement of the rugae of the mucosa.

In early embryonic life the peritoneal pouch reaches almost to the perineum. Later it recedes higher, and if this process stops early the cul-de-sac of Douglas will be deeper than is normal. If there is also a developmental defect in the transversalis fascia it requires but little increased intra-abdominal pressure to drive the peritoneum as a wedge along the prolongation of the transversalis fascia; the incipient stage of prolapse.

Corrective Surgery

As this condition results from a failure of the supporting structures of the rectum, no one technic will suit all cases, therefore a careful consideration

of the factors causing the prolapse and the conditions present in the case at hand is essential, together with a knowledge of the pathologic changes in the rectum, its supports and the surrounding tissues. Because of the several factors contributing to the prolapse and the extent to which it descends, a number of surgical procedures have been recommended to restore the tonicity and fixity of the dislocated rectum. The various "*pexies*" suspend or anchor the gut from above, but do not correct the laxity or redundancy of the pelvic fascia. Restoring the rectal supports or supplying new ones will be wasted energy unless the exciting cause is removed. In women bearing children, repair of the perineum and the levator ani muscle and the careful attention to subinvolution of the uterus are necessary prophylactic measures.

Technic of Operation

The patient is prepared for a laparotomy, placed in the Trendelenburg position and the abdomen opened by a liberal median incision extending from the symphysis pubis to the umbilicus. The small intestines are banked out of the way and the uterus pulled upward into the abdominal incision. A careful examination is made of the position of the pelvic viscera, the location of adhesions and the depth of the peritoneal cul-de-sac, together with areas of loose attachments. (Figure 2.) If small intestines are adherent to the sac they are carefully separated and placed back in the peritoneal cavity. Plastic work to strengthen the pelvic floor by taking up a piece of the broad and round ligaments is done at this time; it adds much to the security of the reposition of the bowel.

The pelvic colon is now drawn up until the prolapse is entirely reduced and held taut. Obliteration of the Douglas pouch is now begun. Silk sutures are passed circularly around the cul-de-sac, beginning at its deepest point and continued up, each stitch being placed at one-quarter-inch intervals until the entire pouch is obliterated. Usually six to eight sutures are required. As the sutures approach the rectum the serosa covering the anterior surface of the bowel is included in the stitch. There is always danger of damage to the ureters and the pelvic vessels at this stage, and in placing these sutures caution must be observed that these vessels are avoided.

As the prolapsed bowel is lifted into the pelvis it will be found extremely long, relaxed and flabby (atonic) with obliteration of its sacculations. The longitudinal muscle-bands of the colon and sigmoid are normally shorter than the bowel itself and the contraction of these bands throws the large bowel into sacculations. (Figure 3.)

Relaxation and flaccidity contribute to the distention and stretching as found in this atonic condition. A re-establishment of these pouches enables the white fibrous bands to contract and again provide their supportive action. To this end the sigmoid is drawn up until it is taut from below and the peritoneal coat is abraded along the longitudinal bands by the oper-

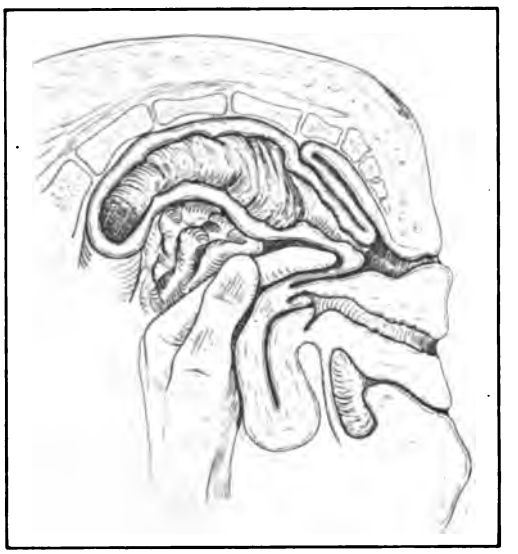


Fig. 2. Exploring Douglas pouch and lifting out and banking back any prolapsed loops of small bowel.

ator's gauze-covered finger. A fine silk intestinal suture is then inserted in the longitudinal muscle-band, carried along within its fibers for one and one-half inches and brought out. One-half inch farther

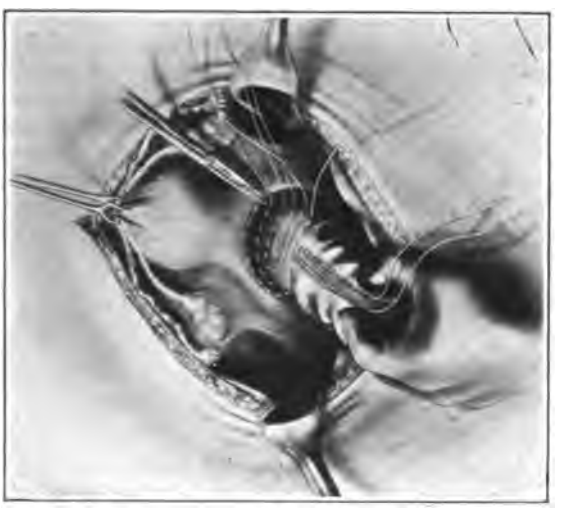


Fig. 3. Closing up the cul-de-sac and plicating the longitudinal fibers of the rectum.

up the band the suture is reintroduced and another inch and one-half is taken up. In this manner one suture is continued along the whole length of the sig-

moid to the sigmoido-rectal junction. The suture is now carried back in the reverse direction on the opposite border of the muscle-band. As this long suture is tied, the muscle-band is shortened and the normal sacculation of the bowel is restored.

After-Treatment

The foot of the patient's bed is raised two feet and so maintained for a week. The bowels are confined for a week by regulating the diet and the use of Tinc. Opii deod., 10 minims each day. If the patient's bowels should move before the eighth day she should have a thorough irrigation with warm saline solution. This operation is quite satisfactory where intussusception occurs and when the prolapse can be completely reduced and where, further provided, no neoplasm or organic stricture is present.

Diet in Typhoid

EDITOR THE AMERICAN PHYSICIAN:—

In your April Journal is a short and pointed article by Dr. T. J. Stockard on the above subject. I have, for 35 years, been feeding my typhoid patients a liberal diet and have no regrets. I honestly believe, in the years gone by, many typhoid cases would have been saved on a more liberal diet.

In the spring of 1886 I located on the western plains of Nebraska. During the following fall I treated quite a number of typhoid cases, many of them from 25 to 40 miles away. In one neighborhood, 35 miles away, I had half a dozen cases. They contracted the fever from spring water hauled 15 miles. I made them dig a well at once. On the uplands the water was very deep—200 feet or more; on the valleys about 50 feet. Practically all the cases scattered over the great cattle ranges were caused by drinking spring water hauled a long distance. Possibly in some way the water became infected by the range stock drinking at these springs.

There were no milk cows in the country; only condensed milk was available. I was at my wits' end what to feed these patients. I finally hit on rice custard made with condensed milk, the juice from stewed dried prunes, milk toast, soft egg and corn starch custards. I gave cold baths—the Brant treatment. The way these people balked on cold baths was a caution, but I stuck to my colors.

Was It Rocky Mountain Fever?

The old cattle ranchers and cow punchers called the fever Rocky Mountain fever. The old text-books of the early 80's speak about Rocky Mountain fever as peculiar to the eastern slopes of the Rockies. The ranchers believed in sage tea, made from desert sage, which grew all over the prairies. Owing to the high altitude, practically all these patients perspired very freely, and many had a high pulse-rate. One patient, a local jeweler, began with a tremendously rapid pulse. I ordered him to go to his people in eastern Nebraska, where the elevation was less. He returned later to thank me for my advice. The temperature course, tympanites, dry brown tongue, often with sordes, delirium, diarrhea and a few cases of hemorrhage, gave a typical typhoid picture. After treating and closely observing many of these cases, I came to the conclusion that Rocky Mountain fever was a misnomer.

Early in 1887 or '88, I think it was, I wrote a series of articles for the *Medical World*, describing many of these cases. I especially called the attention of the profession to my plan of feeding, with the good results I had. I also insisted that these cases were typhoid and not Rocky Mountain fever. A fire in the office of the *Medical World* at that time destroyed my manuscript and many of the journals containing my articles. However, quite a number came before the public.

One year later a doctor at Boulder, Col., wrote an article on Rocky Mountain fever, and proved that this fever was really a true typhoid fever in every respect, and proved his case with several autopsies. I called the doctor's attention to my articles of a year previous. I wrote short articles on typhoid feeding, and spoke on the subject in medical society meetings on several occasions, with little effect or attention. About ten years ago a doctor in the East, connected with some hospital, wrote an article on feeding typhoid patients, telling us all about calories, etc., and urging a more liberal diet. His article was extensively copied and commented upon as something very new and up-to-date. Such is the way of the world.

I seldom give my typhoid cases sweet milk, but I do give them plenty of buttermilk, malted milk, custards, milk toast with a soft egg, orange juice, plenty of water and cold baths, and I have no regrets.

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Colloid Goiter

There is a syndrome often mistaken for hyperthyroidism. These patients present nervous manifestations, with tremor, tachycardia, although of a different kind encountered in hyperthyroidism. The thyroid gland is generally enlarged, due to increased colloid content The basal metabolic rate, however, is always normal. The importance of considering the latter group is that they respond to medical treatment and surgery is contraindicated.—Charles F. Nassau in *The Therapeutic Gazette.*

In people who die at seventy-five years of age the chances are ninety in a hundred that they will die of one of three causes—arteriosclerosis, neplasm, terminal infection.

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

Twenty-eighth Clinic

Infection Through the Umbilicus

Dr. Forbes says: "The prognosis in these cases of septicemic arthritis in infants is very bad. The mortality in this condition is, at least, seventy-five per cent. This high mortality is due not so much to the surgeon's inability to control the infection as to the lessened resistance of the infant."—EDITORS.

IN THE MONTH of March four patients were admitted into the Children's Memorial Hospital suffering from somewhat similar conditions.

The First Case— M. L., 305/21, age six weeks, was admitted into this Hospital because of swelling of the left hand, left knee and right jaw.

The history stated that this child was a full term baby, the delivery had been normal. The child had never been nursed but, rather, nourished with artificial food.

The child's mother contracted influenza the day after her child was born. For this reason the child was removed from her care. She did not see her baby for ten days. When on the thirteenth day the mother resumed control, she noticed that the child had pus about the navel. She says that on the fourteenth day she noticed that the child's right upper jaw, left hand, and right knee were swollen. The history does not state what was done for this child before her admission to this hospital.

When the child was admitted, examination demonstrated an enlargement in front of the right ear in the region of the parotid gland. There was no fluctuation. The right knee was swollen and œdematous. There were definite signs of fluid in the joint and underneath the quadriceps tendon. There was no sign of redness or acute inflammation.

The knee was aspirated and thick pus obtained. Cultures taken showed a streptococcal infection. The knee was opened both on the *inner and outer side*—the pus was evacuated and drainage tubes inserted.

The temperature, which was high before, *became* normal, and the child *seemed* to be getting along very nicely.

The Second Case— M. N., number 306/21, age three months, was a well-nourished, healthy male, who was brought to the Children's Memorial Hospital because he had been suffering for a month, from pain with swelling and redness of his right knee. No other joints were affected. The mother gave a history of hernial protrusion with infection about the child's umbilicus.

At the time of admission examination demonstrated redness of the skin, œdema of the subcutaneous tissues and fluid in the right knee joint.

A diagnosis of infectious arthritis was made and the knee joint was opened, a large quantity of pus evacuated and a drainage tube inserted. Cultures made from this pus showed a streptococcal infection. Treatment was followed by great improvement. The temperature became almost normal and remained so for about ten days, when it rose to about 101°. The joints were now carefully examined and found to show no signs of infection but a suppurative condition was found in the middle ear. This was drained and the child was removed to his home in spite of the protestations of the hospital authorities.

The Third Case— D. D., number 322/21, three and a half weeks old was brought to this hospital with the following history: The mother was a primipara who had had a miscarriage two and a half years before. The child was not nursed but placed upon artificial food. When the child was one week old it was noticed that he seemed to be drowsy and he did not take his food well. Soon he began to lose weight. Three days before admission it was noticed that the child was feverish and had a swelling on one side of his neck extending under the lower jaw. The day before, swelling of both the left and right foot had been noticed. When the child was admitted his temperature was 103°. A careful examination was made of the swellings already described, fluctuation was detected under the internal malleolus of the left ankle. This fluctuating area was incised and about one dram of creamy pus evacuated. Another abscess was found on the dorsum of the left foot. This also was incised and a small quantity of pus evacuated. Cultures

taken showed streptococcus. The temperature now dropped to normal and in three weeks time the patient, who had evidently suffered from pyæmia, was ready to be discharged from the hospital.

The Fourth Case— the most interesting of all, Baby P————, number 341/21, aged eight days, was the youngest of a family of three children. The delivery appears to have been normal. The patient was brought to this hospital because three days before, the mother had noticed that the child showed a marked tendency to become intermittently rigid. During each period of rigidity the child would become cyanosed, his breathing labored, and a frothy white expectoration would ooze from his mouth. There was a history of careless tying off and dressing the cord.

A diagnosis of tetanus neonatorum was made and treatment was instituted. The patient died in six days' time.

It has been noticed in the four patients whose histories have been briefly studied that the cord or navel was the sight of the original infection in each case and that the etiological factors responsible for the lesion were in three of them streptococcus and in the fourth the micro-organism of tetanus.

In the majority of infants who suffer from septicæmia (in some cases shown as in arthritis), the source of infection is either the cord or the respiratory tract. If the primary infection is of the cord, the streptococcus is usually found to be the reponsible etiological factor. On the other hand, if the primary lesion is of the respiratory tract, no matter how mild this primary lesion may be, the organism responsible for the lesions from which the patient suffers, is most frequently the pneumococcus.

In our first case we note that there was an infection of the parotid gland. This is occasionally seen as a complication of septic arthritis of the new-born and at times is seen as the only manifestation of infection of umbilical origin.

It is interesting to note that an arthritis due to a septicæmia whose primary source is in the cord ordinarily begins about the second or third week. The joints which are most frequently affected are the knee, the ankle and the hip, although the shoulder, the elbow and the wrist may be affected.

Prognosis

The prognosis in these cases of septicæmic arthritis in infants is very bad. In the cases of streptococcal infection reported two out of three have been saved, but I think we should realize that this was more by good luck than good management. The mortality in this condition is, I should think, at least seventy-five per cent. This high mortality is due not so much to the surgeon's inability to control the infection as to the lessened resistance of the infant. It is to be remembered that the majority of these infants are suffering from asthenia and that many of them are being fed by mixtures of artificial milk, thus we cannot be surprised that their resisting power is so low that they die from exhaustion in spite of drainage and other surgical procedures.

Tetanus Neonatorum

Tetanus neonatorum is very rare but is a well-recognized condition. It is supposed to be due in the great majority of cases to an infection of the cord. It is hard for one to appreciate how the cord becomes infected with this anærobic organism, but where insufficient care has been taken in the dressings and where the baby has lived in squalid surroundings, an infection by this micro-organism is quite conceivable. The symptons, of course, are characteristic, the clonic spasm, the extraordinary wrinkled, whizzened appearance which comes over the face when the patient is suffering from such spasms, the respiratory disturbances and the convulsive seizures.

You, who have been fortunate enough to have served your country overseas, quite realize the difficulties, the hopelessness of the treatment of tetanus. You have all appreciated what the prophylactic treatment of tetanus has meant in the saving of thousands, nay, tens of thousands of wounded men, but few of you, if any, will remember any patient who was saved after the symptoms had once developed.

Some Causes and Some Results of Chronic Intestinal Toxemia

Allan Eustis *(N. O Med. and Surg. Jour,.* Jan., 1922,) states that on the basis of our knowledge of physiological chemistry we are justified in the belief that the substances responsible for intestinal toxemia are amins formed by the putrefaction of several amino acids with loss of carbon dioxide; that these putrefactive basic amins have definite physiological action; that they are normally detoxicated by the liver; that when they are not detoxicated, they exert their specific, physiological action on the individual. However, a diagnosis of chronic intestinal toxemia, only, is rarely justifiable, any more than one of achylia gastrica, or tachycardia, unless the cause of the same has been ascertained; but on the other hand, severe nephritis, a supposed diabetes or a case of supposed hyperthyroidism, not to mention the large number of neurasthenics, may have their origin in a chronic intestinal toxemia.

A number of cases are cited which serve to bring out the following points:

(1) Certain cases of intractable intestinal toxemia may be due to intestinal stasis from an anatomical abnormality, which can be relieved only by surgical measures.

(2) Some cases of chronic intestinal toxemia may present symptoms of hyperthyroidism, which symptoms are relieved by overcoming the intestinal toxemia..

(3) Intestinal toxemia may be the cause of an albuminuria and even of symptoms of uremia, relief of which is complete after control of intestinal toxemia.

(4) Severe pyorrhea may be the cause of an intestinal toxemia, and indirectly the predisposing cause of asthmatic attacks.

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practioner must be recognized. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

Is It Desirable to Standardize Therapeutics?

HOSPITALS are facing the question of standardization, and there is much difference in opinion. Doubtless in some measure it is practicable to standardize hospital equipment and certain technic; there are, in fact, many advantages as relates to factors capable of standardization. But it always has been questionable to attempt to standardize the therapeutics of a hospital by working out dispensary formulæ and numbering them, and it leads to machine prescribing, which always is bad. The capable house physician objects to such procedure; he wants to learn how to practice medicine outside, and he knows it is poor policy to carry into private practice a lot of hand-me-downs used in ward and dispensary work. The visiting physician has learned certain therapeutic tools, and when he finds he cannot use them in his ward work because these drugs are not carried in the drug room he is apt to say caustic things. The army supply table is held up to him as precedent, and if he served in the army he recalls how angry he was sometimes over that hard-and-fast supply table and how helpless he was in the face of army discipline, he is apt to use some punctuated language to the hospital superintendent.

Yet the advocates of standardization keep hammering away at it. Some of these men are laboratory workers and they are used to the standardization so necessary in that line of activity. Others are surgeons, who deal with antiseptic solutions, the giving of intravenous medicaments, the meeting of shock, post-operative hemorrhage, etc., where a certain standardization is desirable, especially when giving directions to nurses and internes over the telephone. Some are ex-army men, long drilled in to therapeutic standardization and who are lost without it. Yes, it is so easy; one does not have to think, which some people consider in bad form.

"The Diagnosis Plus the Remedy Equals X Find the Value of X"

The standardizers in therapeutics, who are strong on diagnosis and weak on therapeutics, accept the above proposition as gospel and believe that X has "cure" as its value. Perhaps! Not always, however, for the diagnosis must be correct to make it work, and the diagnosis is very apt to be wrong; and X means failure. The trouble with these men is this: they are very sure they are imitating nature, and they forget that nature refuses to imitate them. Let's not be too sure about our "nature cures!" Nature does not always work in partnership with man; she never does unless man is going her way. How often are we sure we are doing that?

Laboratory findings are very good, but so are the findings elicited by painstakingly going over the patient himself, using the now too often neglected resources of physical diagnosis. Recently we were present at a consultation where three city specialists and one country doctor were called. The three city men were in entire agreement, based principally on the elaborate laboratory findings, and their impatience with the country physician who took fully thirty minutes in carefully examining the patient was very obvious. Yet, as the event proved, the country physician was right and he was retained on the case. He had made laboratory tests himself, but he had also very carefully observed the natural history of the case and he studied the sick man, not the "case" of alleged nephritis. The case was one of chronic aspirin poisoning, not suspected by any of these men, but finally determined by the country physician, who had made the diagnosis of chronic poisoning and who set out to find what was responsible for the condition. The patient had long been taking a dozen doses of aspirin every day, which was in excess of what the newspaper advertisements recommended. Laymen should not play with potent drugs.

Working Back to the Cause

There are many cases where machine diagnosis fails to work, as in the instance just cited. Doctor, did you ever correct your diagnosis because the remedy used failed to perform according to schedule? Of course you have. Do you remember those cases of malaria that failed to yield to quinine and that you finally treated as typhoid? What about those "typical digitalis cases" in which digitalis failed, despite graphic heart tracings and the existence of auricular fibrilla-

tion, and that were really pernicious anemia well under way to hopelessness until you woke up? What about those pre-bacillary diagnoses of tuberculosis that never did reach a bacillary stage, despite the cock-sure t. b. expert, and that turned out to be half a dozen different diseases of the malnutrition group? You experimented quite a while with different remedies until the time came that the blood counts cleared up the situations. What about those diagnoses of endocrine imbalance that turned out to be indicanuria, masked diabetes or some focal infection? How may we standardize the therapeutics of far from standardized diagnoses? Despite the vaunting of diagnosis, when it comes to obscure cases we are wrong half the time—the best of us are.

Is There Such a Thing as the "Classical Case"?

We often find the "classical case" in books, be the case typhoid, pneumonia or what not; but we find a terrible toll of unclassical cases in our practices, and in which the "classical treatment" fails out badly. What about standardization here? One man writes in to THE AMERICAN PHYSICIAN that he "cured" his cases of "diphtheria" without employing diphtheria antitoxin, and he believes he did; but the board of health in his town reports an epidemic of aggravated follicular tonsillitis. One can easily be wrong there and be a good physician at that.

Another man considers measles as a very minor affection requiring no medication, for he was never through an epidemic of malignant measles with a heavy mortality. Quite casual indeed is "malaria" in the mind of the physician who never saw an estivo-autumnal type of the disease or one with congestive chill. Few of the cases he diagnoses as "malaria" are in bed and, if he examined the blood smears he would not find plasmodia. And say, Doctor, what is influenza and how do you differentiate mild from severe cases? Are you ever *sure* of your diagnosis of "influenza" in the absence of an epidemic marked by a high mortality? What is "classical" rheumatism, whatever that term means, for we confess we don't know? Is exophthalmic goiter an endocrine, a cardiac or a nervous disease? Describe a "classical" case and outline a standardized treatment that really works.

When we standardize disease, the people who have standardized diseases, and also standardize doctors who have to treat these cases, then, after standardizing drugs and the making of them, we may rationally talk about standardizing therapeutics, and not until then. We all know that time is far off.—T. S. B.

Some of the symptoms of gonorrheal rheumatism are said to be relieved by intensive dosage with sulphur, although the gonococci are not killed by it.

Long Distance Weather Prognosticating

No man can with any certainty foretell the character of the weather for a week in advance, but the following considerations, perhaps, may aid to some extent in seasonal prognostication in the United States.

If when the sun is south (November, December, January and February) the prevailing low barometers arise in the south, there is danger of cold weather, with heavy precipitation along our two seaboards. If when the sun is north (May, June, July and August) the prevailing low barometers arise in the north, there is a likelihood of hot weather with many thunderstorms. In a normal, or mean, season the low barometers arise equally in the north and the south.

There is a certain norm in the temperature of the waters of the Atlantic and Pacific oceans adjacent to our shores. If this norm is widely departed from, in either ocean, there is a likelihood of a large number of storm periods, especially so if one ocean is abnormally warm and the other abnormally cold.

If the thermometer ranges abnormally low during the winter in Alaska and northwestern Canada, low barometers occur in the extreme northwest of the United States, with heavy precipitation on the Pacific slope, but not necessarily low temperature. Such storms spread east over the plateau region, but do not influence very markedly the temperature of the Atlantic slope. If, on the other hand, cold waves center from Medicine Hat eastward in Canada, the Mississippi valley and the East experience cold weather, but the Pacific slope escapes. Cold waves originating in southern Idaho and in Nevada, with a north wind, may cause frost in California. Florida is apt to have frost from movements of cold waves south from the region of the Great Lakes or from storms originating in southern Texas. These centers of storm and cold weather may persist for long periods and then markedly influence the weather in low latitudes.

It is asserted by some persons that earthquakes and volcanic eruptions in the southern hemisphere disturb electrical conditions in the northern hemisphere and thus cause stormy weather over long periods in the latter hemisphere.

If the clouds persistently range high in spring and fall, frosts are apt to occur.

Needless to say, the United States weather prognosticators do not accept some of these statements; but persons who study the weather maps often accept

(*Continued on page* 524.)

Confusing Terminology of the Present Metric System

Suggesting Adoption of Universal Terms

EL LINGO DEL MUNDO

By F. A. GRAFE, A.B., M.D.
7 East McMillan St.,
Cincinnati, Ohio

MOST NATIONS, in the construction and improvement of their languages, have visited the storehouses of ancient Greece and Rome, have borrowed from their inexhaustible treasures enough to supply their needs, have remodeled the supply in conformity with their individual tastes, and have appropriated it as their own.

If one rational universal modification had been instituted, the present babel of languages would not have descended to us, the tremendous wasted energy in the acquisition and daily use of the different languages might have been directed to more useful achievements for the common good, more friendly feelings might have supplanted the present ubiquitous discontent and hatred. The horrors of a world war might never have entered our peaceful homes; but "what's done is done—would it were worthier." Let us not grieve over what might have been, but rather let us direct our efforts toward establishing a better era.

In the past various attempts have been made toward the introduction of a world language. The failures encountered have been due to the fact that the languages had been constructed by lone individuals instead of by a combination of many individuals, for the working days in any one man's life are too few to bring to a successful termination such an herculean task, and, consequently, we are today as far from having achieved success as were the ancient Greeks who tried to unite their different dialects into one Pan-Hellenic Attic language.

With the ever increasing facilities for international communication, it becomes imperative to consider this vast problem in a most serious state of mind. It is not one man's problem; it is the foremost problem of the universe, in which every individual and every branch of society must take an active part. Thus, and thus alone, may we hope to gain the desired goal. It becomes the part of the financier and his collaborators to introduce a monetary system which may be accepted by all nations. It becomes the duty of the legislators to make uniform general laws, acceptable by all countries. It becomes our duty to clarify and unify medical nomenclature, to introduce simple terms for accepted standards, to remove the old and obsolete, and bring order out of chaos.

This article has been written in the hope that it will invite criticism and exchange of views. If you, dear reader, have any suggestions to offer, kindly address this journal or the writer; you may rely upon my assurance that full consideration will be extended. The world is on the *qui vive;* let us jointly have the honor of driving the initial wedge.

Beginning with Medical Nomenclature

If medical science evolves a language which is acceptable by the entire medical world, other scientific bodies will follow suit, and the dream of the ages may be realized in our own time. Not only must medical science blaze the way, but America—you and I and all of us—must be the pathfinders.

To begin with, our means of comparing values must be uniform. The metric system has been accepted as the best system, but there is a vast difference between acceptance and use. Why do the English people hesitate? To my mind appear two main reasons: the change from a percentage system to a per-mille system, and the confusing terminology. It undoubtedly is unfortunate that the percentage system was replaced by the per-mille system. It takes one hundred units to make one dollar, the picture we love so well; now we are told that it takes one thousand millimeters to make one meter and one thousand milligrams to make one gram. We hesitate, especially when the daily press quotes such painful news that in Russia it takes ten thousand rubles to see our Charlie Chaplin walk, or when you step on a pair of first-class scales and are told that your weight is sixty-eight thousand grams, when you full well know that only yesterday another pair of equally good scales quoted your weight as one hundred and fifty pounds. There is, however, one ray of hope—"things are not what they seem."

The confusing terminology: The baby has entirely too many names, and the individual names consume too many syllables. We are in the habit of using a few chosen words, "the shorter the better" our motto.

The remedy: The length of the millimeter equals the width of a line, which a normal eye may distinguish at the accepted optical distance of six

meters. "Lin," the first syllable of linea, would be a rational and acceptable name for the unit we now call millimeter. Its son, microlin, being the one thousandth part of lin, it should replace the microscopic unit micromillimeter, and meter should hold its same old job. Gram, the unit of weight, is composed of one thousand microgram; grama, its liquid equivalent, replaces "cubic centimeter" and "milliliter," it, too, is composed of one thousand units, each of which is called microgramа, and each microgramа is the liquid equivalent of microgram.

The Frenchman, originator of the system, placed his little trademark in a conspicuous place by calling the liquid quantity which equals one thousand grama "liter," but when it came to the naming of the solid equivalent of the liter, he was nonplussed and he called it kilogram, one thousand gram, borrowing the Greek word "chilioi" for the purpose. The Latin word "pondus" means a heavy weight, just suitable here. Its first syllable, pond, should be employed. If pond signifies one thousand gram, then ponda signifies the liquid equivalent of pond. We repay our debt to our sister republic and return to France its "liter."

Our system, changed in name, but not in quantity:

meter—1,000 lin.
lin—1,000 microlin.
pond—1,000 gram.
gram—1,000 microgram.
ponda—1,000 grama.
grama—1,000 microgramа.

(*To be concluded in next issue*)

Best Current Medical Thought

Birth Injuries

Abstract of an address delivered before the Wayne Junction Medical Society, April 25, 1922

By Alfred Gordon, M.D.

Injuries during the delivery or in the intra-uterine life present several varieties. The central nervous system as well as the periperal nerves may suffer considerable damage. The most frequent occurrence of the first group is *meningeal hemorrhage*. It may occur following a laceration of the tentorium or a rupture of the pial veins, a laceration of the superior longitudinal sinus or of the lateral sinuses. The largest of the subarachnoid veins, which are usually ruptured, are located along the anterior and the posterior borders of the parietal bone, which correspond to the lambdoid and coronary sutures. The coronary suture corresponds to the Rolandie area and, consequently, a hemorrhage at this level produces motor symptoms, which is ordinarily the case. They are hemiplegia, monoplegia, tremor, convulsions. If convulsions do not disappear, eventually the following conditions will be observed: arrested mental development, Little's disease, disturbance of vision, ocular palsies, deafness, disturbance of speech. It is, therefore, evident that the recognition of meningeal hemorrhages in newly born infants is a matter of great practical importance.

The brain in all such cases presents very serious changes. Foci of softening, retraction and depression in the nervous tissue, adhesions and thickening of the meninges, degeneration of cortical cells and of fibres—all these pathological lesions are common findings. They are the result of a *meningo-encephalitis*. Old lesions in the vicinitv of the walls of the lateral ventricles may lead to the formation of hydrocephalus, atrophy of the brain, microgyria (diminution of the size of convolutions), or else hypertrophy of brain tissue may be encountered.

The causes of meningeal hemorrhages during birth are, of course, traumata produced either by instruments during delivery or else in protracted labor when forceps is not applied promptly. Little lays special emphasis on dystocia and especially on premature birth.

Symptoms

A. Infantile spastic hemiplegia may be noticed at birth or only when the child makes the first attempt to walk. Convulsions may appear early. While the hemiplegia, in a general way, resembles that of adults, it nevertheless presents some peculiarities, namely: contractures with deformities; the flexion of the hand and fingers and varus equinus are pronounced. The striking feature is the atrophy of all the structures of the affected side: skin, fat, connective tissue, musculature and bone; not only the limbs, but also the face and thorax show diminution in size. Vasomotor disturbances, as well as sensory, are present. The paralyzed limbs are not infrequently affected with choreic or athetosis movements.

Children born hemiplegic sometimes present other defects, such as strabismus, hemianopsia, nystagmus, deafness. Epilepsy is a frequent complication.

B. Spastic diplegia. Little's disease. When the seat of the lession instead of being unilateral, is symmetrically distributed to the motor areas of both hemispheres, the clinical manifestation will be a double hemiplegia or diplegia. When the lesion affects only both para-central lobules of the motor area, the result will be a paralysis of both lower extremities (paraplegia). Little was the first to call attention (in 1862) to premature labor as being the most frequent etiological factor of spastic diplegia. Here a deficient development of the pyramidal tract is the direct cause of the malady. The pyramidal fibres become covered with myelin only during the first few months after normal birth and at seven months the pyramidal fibres are absent in the spinal cord. There is, consequently, no continuity between the cortex and peripheral nerves and the stimulation sent out from the cortex to the spinal centers is not properly transmitted. Hence the rigidity of the muscles in the limbs.

Bowel Torpor in the Elderly

is usually the result of a progressive atony of the bowel, with a gradual decrease of the natural mucus and other secretions. The loss of moisture dries the feces and interferes with their free and easy passage. Under such conditions

INTEROL

serves as a safe and efficient substitute for the physiologic secretions. Following its systematic use, the bowel contents are kept soft, the intestinal canal — especially the large intestine — is adequately lubricated, and the feces are passed along and evacuated in due time without straining, pain, or discomfort. INTEROL thus constitutes an ideal medium for the relief of bowel torpor in patients of advanced age.

DIRECTIONS:

In treating the elderly, begin with a tablespoonful morning and night on an empty stomach, increasing or decreasing as conditions require.

Sample and Interol brochure on request.

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Besides premature labor (Little), intoxication of the mother, with organic or inorganic elements, syphilis, finally, trauma during labor (see above)—are all apt to produce spastic paralysis in infants. The most frequent form is *Paraplegia* which presents this characteristic feature that when the child is standing the thighs are in close contact with each other, while the legs are separated. In walking, the legs have a tendency to cross each other. When seated, the legs are extended.

In the diplegic form the face not infrequently participates in the general rigidity. When patient speaks, there is a marked contortion of the muscles of the face. The mentality is not infrequently involved and in such cases epilepsy is frequently associated.

The *prognosis*, generally speaking, is unfavorable, except in cases of a syphilitic character (as shown by the Wassermann test).

Treatment

Prevention is, of course, the most important element. Prompt intervention in difficult labor and in dystocia should always be borne in mind. Late forceps application is to be avoided. Since meningeal hemorrhage is a frequent etiological factor, early removal of blood clots is urged.

Cushing has recorded satisfactory results (in 1905). Gilles advises puncture of the anterior fontanelle.

Surgery directed toward the deformities and contractures is apt to give favorable results. Tenotomy, myotomy followed by application of plaster casts to the limbs put in corrected positions has given favorable results in certain cases. Manipulations, exercises, massage, warm baths—are all good adjuvants in the post-operative treatment.

Foerster has suggested, in 1909, resection of the posterior spinal roots for relief of spasticity. Schwal and Allison, in 1910, suggested "muscles group isolation," which consists of isolating the nerves distributed in the affected muscles and injecting them with alcohol. Finally, Stoffel, in 1911, advised exposing the nerve trunks of the involved muscle and severing them. All these special surgical procedures must be followed by a course of massage and physiological exercises.

Injuries during birth may produce damage not only to the central nervous system, but also to the peripheral nerve trunks. The most frequent is the "obstetrical palsy." It is almost always due to instrumental delivery or difficult labor. The finger or tenaculu introduced to facilitate the delivery, also the forceps may press directly on the shoulder and the brachial plexus. In breech presentation it is very frequent.

Symptoms

It is the "superior type" of paralysis of the brachial plexus. The following muscles of the shoulder and arm are involved; deltoid, biceps, brachialis anticus, supinator longus and brevis, supra- and infraspinatus and the clavicular end of the pectoralis major. These muscles are controlled by that part of the brachial plexus which takes its fibres from the 5th and 6th cervical roots.

The disturbed function consists of an inability to flex, supinate and abduct the arm. The latter is in a state of extension. The forearm and hand are pronated. Atrophy with partial or complete reactions of degeneration develop rapidly. Sensations, as a rule, are not disturbed.

The treatment should consist, at first, of massage, electricity and systematic exercises. Surgical intervention may, in some cases, give satisfactory results.

The Opportunity of the Family Physician Toward Insanity of the Young—Holmes

(Continued from page 498)

for seven and for ten years have recovered, while quite mild cases have failed to show benefit even though sick only two years or even less. Nor do we know just how the irrigation does its work.

We presume at present that the toxic agent is the *remnant* of a histidin-like molecule (probably of a polypeptid containing an imidazol radicle), left after a colon bacillus has taken away the portion it can consume. Ordinarily we think of the toxic substances produced by pathogenic bacteria as within the body of the bacterium, an endotoxine, or as an excretion of the microbe, an exotoxine; but in this instance it seems that it is a toxic food remnant after the bacterial repast—the poisonous residue of the feast of our messmates, the colon bacilli. In this respect it resembles the etiology of no other common disease. At first it seemed that this toxic residue might be betaiminadzolethylamin, for it presents some of the physiologic actions of that toxic amine, and the biochemical paradigm of the production of this poison fits in with the retardation of the barium meal in the cecum, but such a presumption provides too much. This toxine is so poisonous that it kills in a few moments after it is injected into animals and before any neurologic changes have had time to appear. Research guided by clinical and especially by favorable therapeutic experiments alone will answer the many questions that have already come up. Until researches are established on an adequate scale, and the basis of the disease is completely elucidated, it is the duty of the physician who first recognizes a case of dementia praecox to institute detoxicating measures. The first of these is rest in bed in the outdoor air, and sunshine, both day and night, i. e., the same as in the tituberculous therapy of Rollier. The second is the treatment of the spasmophilia by phosphorated cod liver oil and calcium lactate together with calcium containing foods. The third is the removal of foci of infection in nose, ears, throat, teeth and natural cavities of the body, and early appendecostomy and irrigation of the colon with large quantities of warm water every night four hours after last meal of the day.

This Problem Is in the Hands of the Family Physician

Whatever is to be done for the twenty thousand more youths who come down with dementia praecox every year must be done before commitment and before sanitarium segregation. Not much assistance can be expected from the professional psychiatrists as such authorities as Adolph Meyer, Petersen and Church teach that the obvious physical pathology observed in dementia praecox patients is

(*continued one leaf over.*)

Doctor:

Do your patients ever think of this:

It's not what they *eat* but what they *assimilate* that counts

As every physician knows, digestion of food is essential in order to benefit by its nutritive qualities. Moreover, if in digestion food ferments or undergoes putrid decomposition it may be an actual menace to health.

This is one reason why it is of advantage to have all cereal foods thoroughly baked. Baking not only partially digests cereal foods, thereby developing the particular flavor, but it establishes the physical condition that avoids fermentation and promotes digestion, so that the food is properly assimilated by the system to yield strength and energy.

Grape-Nuts, the delicious cereal food made from whole wheat flour and malted barley, is probably the longest baked of all cereal foods. It is kept for twenty hours in ovens heated to just the proper temperature to develop the best condition of the cereal for digestion.

Grape-Nuts contains valuable mineral salts required for nerve, tooth and bone structure. It is a good all-round food that helps children to grow sturdy and healthy, and there is nothing better for adults.

For breakfast or lunch the delight and appetite-satisfaction in a dish of Grape-Nuts with milk or cream is known practically throughout the civilized world.

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due to mental states or unrelated accidents. If the family physician treats his own dementia praecox patients at the patients' home and the local curing hospital, on the indications which I have tried my best to present, many commitments will be saved and the pessimistic and mystical attitude of profession and public toward the adolescent insane will disappear, research into cause, cure and prevention will be established and this curse of youth will be as rare in our state hospitals in another generation as typhoid fever, which filled one-third the beds in the Cook County Hospital when I was an interne there thirty years ago, is rare in the great civil hospitals of the United States to-day.

The problem of dementia praecox is in the hands of the family physician where the problem of every other disease which has been solved by our profession has been safely placed.

Arsphenamine Treatment of Syphilis

Dr. E. A. Fischkin, of Chicago, observes that physicians have unmistakably succeeded in curing syphilis in the primary stage in a way that they have never done before. This is made possible by salvarsan and mercury. The author quotes several cases in which he has been able to clear up primary cases without the appearance of any secondaries.

Fischkin utilizes arsphenamine with mercury in the primary and early secondary stages, and arsphenamine, mercury and iodides in tertiary stages. For the mercurials he uses calomelettes for inunction or bichloridol collapsules for intramuscular injection. He says the advantage of the latter is that they are less painful and produce less infiltration.

As to the arsenicals, he favors neoarsphenamine and silver arsphenamine and quotes a number of cases to demonstrate the value of these forms of arsenic. He believes that it requires from 25 to 30 injections in favorable cases of secondary or latent syphilis to acquire a negative Wassermann.

He warns that in no case does a negative Wassermann indicate a lasting cure and that relapses may be expected.

In discussing silver arsphenamine, Fischkin finds that it produces better results with a considerably smaller amount of arsenic in comparison with those following other products.

He concludes this interesting article by saying that silver-salvarsan is parasitotrophic in a greater degree than the older preparations and is less organotropic.—*Am. Jour. Clin. Med.*, April, 1922.

Pain occurs in most of the appendix attacks before any other symptom develops, even the symptom of rigidity, and this pain is usually felt first at the umbilicus, later usually localizing in the right lower quadrant. Therefore, pain here, as in many other abdominal lesions, is not immediately associated with the visceral organs involved, and it is also not uncommon to find both pain and tenderness, and at times even rigidity, at points far distant from the appendix —Dr. C. E. Tennant in *Colorado Medicine.*

"Pernicious Anemia" and "Septic Anemia"

William Hunter *(British Med. Jour.)*, from his extended experience in the study of the anemias, states that the most important outcome of his studies may be summed up in one sentence: The infective and clinical features of severe anemias go deeper into their nature and help far more in their diagnosis and treatment than the various blood criteria so much before our notice in dealing with anemias.

The percentages familiar to us in blood reports make a deep impression on the eye and on the mind, but they have the one great drawback that they always fail precisely in the borderland group of cases, in which the clinical observer most needs their help, and they always fail when the anemia is moderate in degree and when it is particularly necessary to be sure of its character if successful measures are to be taken in time to arrest progress.

On the other hand, the outcome of the study of the infective and clinical features presented by cases of severe anemia has yielded the following information briefly summarized:

(1) Two forms of severe anemia as to be recognized The one is the great hemolytic disease *sui generis*, termed idiopathic or pernicious anemia. The other is a very common anemic condition—non-hemolytic in its nature—which the writer has differentiated and termed "septic anemia."

(2) The patient who presents the picture of desperate anemia, termed pernicious anemia, is really in the grip of both the above forms of anemia, each of them capable of killing him, and the combination absolutely mortal. The chief one which gives his illness its main characters, clinical features, and course is the hemolytic disease; the other complicating one is the non-hemolytic septic anemia.

(3) The outcome of this recognition and differentiation is that the two anemias can be torn apart by removing completely the septic anemia and its causes from the pernicious anemia patient. On doing this, the great hemolytic disease shows itself for the first time in its true uncomplicated characters and course; and these prove to be much milder in severity and with a much better prognosis than were ever formerly presented.

(4) A further outcome of these studies has been to reveal certain simple and easily recognizable diagnostic features which enable pernicious anemia to be recognized in its very earliest stages, even within a few weeks of its first contraction, and on an average about two years before it generally comes under treatment.

(5) The infective and clinical features here referred to, that help so much in the diagnosis and treatment of both classes of anemia, are connected with observations, not on the blood, but of lesions connected with the mouth. These lesions are combined in the case of the pernicious anemia patient, but are perfectly distinct from one another, and have a totally different pathological and etiological significance.

The infective lesions connected wtih the diagnosis of pernicious anemia are the peculiar sore tongue which this disease presents as one of its earliest features. The lesions concerned with "septic anemia" are septic lesions connected wtih chronic and overlooked dental and nasal sepsis, especially the former, to which the author has given the name "oral sepsis." When sepsis is removed the powers of recovery from this hemolytic disease are thereby increased.

The writer has had under his observation 150 cases of pernicious anemia during the last twenty years, and

(continued one leaf over.)

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cooked and krumbled

is high in food values as well as a natural regulator



Physicians are giving more and more consideration to bran. It may not only be prescribed for minor and chronic constipation cases with confident expectations of satisfying results, but its wonderful food properties (as shown in the accompanying analysis) give it double value to the patient.

Kellogg's Bran, cooked and krumbled, should not be confused with common brans which become so irksome for the patient to eat. Kellogg's Bran is delicious not only in its krumbled crispness, but in its flavor, which appeals to the most fastidious appetites. Eat it as a cereal or sprinkled over cold or hot cereals or in other cooked foods.

As you know, bran induces better peristaltic action by adding indigestible residue in the bowel tract. Eaten regularly each day—at least two tablespoonfuls; in chronic, old-age or bed-ridden cases with each meal—the greatest relief may be anticipated. All grocers sell Kellogg's Bran, cooked and krumbled.

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MINERAL SALTS	**8.41**
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Crude Fiber	8.9
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Kellogg's

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the original BRAN ~ *cooked and krumbled*

finds that the dreadful, hopeless pictures which the disease formerly presented he no longer sees in patients in whom he has been able to carry out the full measures of anti-sepsis which he considers necessary, without using any new methods of treatment other than this antiseptic treatment against gastrointestinal sepsis, which he recommended in 1890, and the measures of oral sepsis, which he recommended in 1900. The name "glossitic anemia" would best connote this great hemolytic disease, help in its early diagnosis, and in its control.

Epidemic (Lethargic) Encephalitis

Report from the study and observations of several doctors:

Morris Grossman *(J. A. M. A.,* April 1, 1922) reports from a study of ninety-two cases from one to three years after recovery that only ten of the ninety-two patients examined in this series were free from symptoms and showed no residual signs when observed from one to three years after the acute illness. Fourteen others had recovered, within this time, sufficiently to allow them to return to their work. These patients, however, still showed residual signs of their previous illness and complained of various forms of psychic disturbances, such as insomnia, irritability, poor memory, and fear neuroses. Sixty-two patients showed a serious, more or less progressive involvement of the central nervous system which was evidenced by disturbances in the motor pyschic or autonomic functions. Of these sixty-two patients, forty-two showed a clinical syndrome which closely resembled that seen in paralysis agitans. On account of the rapid development of the syndrome, their emotional responses were more active than those of the average patient with paralysis agitans. They smiled more readily and seemed to overcome their facial immobility more completely and more easily. Their mental reactions were likewise more prompt. Almost 70 per cent. of these patients were below thirty years of age. A strikingly large number of them also showed pupillary changes and residual signs pointing to cranial nerve involvement; this is an unusual finding in true paralysis agitans. Another outstanding feature that was noted in the re-examination of these patients was the strikingly large number who showed increase in the activity of the abdominal reflexes.

Arthur J. Hall *(The Lancet)* states from his observations on thirty cases, eleven of which died (a mortality just under 24 per cent.). There was nothing among these cases that indicated direct or indirect infection.

It seems that epidemic encephalitis does not protect against influenza or *vice-versa.*

With reference to the prognosis of the disease, Hall feels that generalizations are not yet possible. He agrees with Branwell that a steadily progressive stupor with a rising temperature and loss of sphincter control is ominous, though not necessarily fatal. During the progress of a case it is often impossible to form an opinion as to the prospect of recovery.

If one compares it with other acute specific infections, it is apparent that the signs upon which we can usually rely in them for prognosis are often not forthcoming in cases of encephalitis. Patients with comparatively

(Best Current Medical Thought—Continued one leaf over.)

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It is the failure of the secretory function of the bowel, together with a poor bile secretion, which, in nine cases out of ten, is responsible for constipation.

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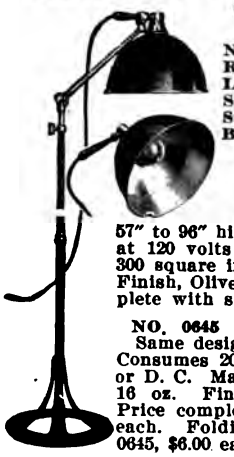
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mild attacks recover, only to be seriously damaged for very long periods, even permanently. Others who have appeared in the early stages to be at death's door recover quickly and completely, while still others whose illness has seemed moderately severe for one or two weeks suddenly become worse and die without any obvious reason why they should.

George E. Price *(J. A. M. A.)* reports recurrence of symptoms one and one-half years after recovery in this case because it is the longest interval or remission so far recorded, to his knowledge. The child made practically a complete recovery from the first attack, returning to school. The question is raised as to whether the child could have had a reinfection. The tendency of epidemic encephalitis to relapse, and the absence of any data regarding reinfection in the disease, point to a flaring up of encapsulated foci, rather than a reinfection from an outside source. The writer points out that the possibility of a relapse in epidemic encephalitis after an interval of a year or longer is of interest to life insurance statisticians, who already are chary of renewing health policies to persons who have had encephalitis.

Long Distance Weather Prognosticating

(Continued from page 514)

statements not officially agreed to and base long distance prognostications on the factors noted above.

Since our great mountain ranges run, roughly, from north to south, the weather is apt to be very erratic, and the great continental bulk affects our weather more than do the ocean areas, except on the Pacific slope and along the Gulf of Mexico. If our mountain ranges ran east and west, the territory south of them would all be semi-tropical.

The Practice of Obstetrics an Art

A. B. Somers' *(Med. Herald)* conclusions are:

First.—Childbirth, being a physiological process, cannot be reduced to mathematical exactness.

Secand.—A very large percentage of women have to be cared for and will be, by the average doctor and in the average home, without trained attendants, and under these conditions, manipulations and operations are dangerous.

Third.—The average doctor is inclined to adopt operative measures because the atmosphere of our medical journals is full of it.

Fourth.—"When doctors disagree, who shall decide?" We need a get-together measure on the part of radical obstetricians.

Fifth.—It is not enough to say that the mortality and morbidity rate is no greater under radical methods. Modern science demands less mortality and morbidity, and this we have not accomplished during the past twenty years.

Sixth.—We need more and better equipped maternities for the care of all classes of obstetric cases.

Seventh.—We need more trained obstetricians, not necessarily experts.

Eighth.—We need more prenatal teaching.

Ninth.—In brief, we need more practical good sense and less haste in our obstetric practice.

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The definite gonococcocidal strength of NEISSER-SAN-KAHN with its freedom from irritation and other objectionable features—stamps this new agent as an outstanding drug for use in genito-urinary diseases. One tablet in three ounces of hot DISTILLED water injected at body temperature, three times daily. Supplied in tubes of ten 1-gram tablets.

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Book Reviews

Practical Therapeutics

By Hobart Amory Hare, M.D., B.Sc., LL.D., Professor of Therapeutics in Jefferson Medical College and Physician to Jefferson Hospital, Philadelphia. Eighteenth edition, largely rewritten. Cloth, illustrated,, 1038 pages. Lea & Febiger, Philadelphia. Price, $6.50.

This standard work has so long met the needs of the practitioner that little comment is necessary. This careful revision brings the work fully up to date. Hare has always been a sensible writer, not so critical as some others, but dependable. This book shows his bent. Refusing to delete drugs largely in use, or to refuse comment on well-based proprietary preparations of the new-drugs class, he lists a large number of drugs and preparations that do not meet with support in certain circles. For the seasoned practitioner this is well enough, but for the student the great wealth of matter is confusing and hard to master. For the practitioner, the book is of marked value.

Yet there are certain defects. The therapeutic uses of many drugs discussed is too all-inclusive, extending back too far into empiricism. One cannot help but note, in the admirable Part IV on Diseases, the fact that many drugs and hosts of "uses" discussed in Part II on Drugs, are not even mentioned or are dismissed with a word. Yet Dr. Hare has plenty of company in this genial attitude—one that it is about time to drop; it will be a real advantage to clinical medicine. Also, or so it appears to the reviewer, there is a paucity of warning regarding heavy doses discussed, especially when depressing drugs are under review. The experienced practitioner has learned these points, but the student has not.—T. S. B.

Medical Ophthalmology

By R. Foster Moore, O.B.E., M.A., F.R.C.S., Assistant Ophthalmic Surgeon, St. Bartholomew's Hospital; Surgeon, Moorfields Eye Hospital. Cloth, splendidly illustrated, 300 pages. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. Price, $3.50.

Dr. Moore, while not producing a markedly original treatise, has brought together under one cover a wealth of data on ophthalmology in its relationship to systemic disease. The work is well done and the general practitioner of medicine will find in it much data bearing on his work. The sections on visual defects due to hemorrhage and neural lesions seem to us to be of especial value.

(Book Reviews continued one leaf over.)

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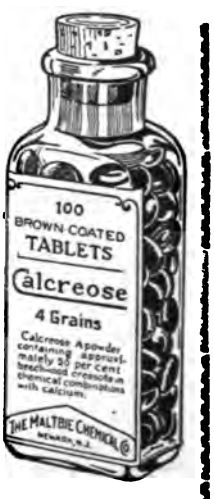
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Neglect of the bowels after operation is always apt to give rise to serious consequences. In addition to the depressing effect on the whole body, resulting from the absorption of toxins from retained waste products, the contents of the lower bowel become so inspissated and dessicated that their ultimate evacuation is accomplished by such mechanical difficulty and severe straining that grave harm is often done, particularly to the site of the wound.

Hernias are frequently produced, while hemorrhoids are a common outcome. Other ill effects are prone to follow; post-operative constipation and its persistence often makes an operation a complete failure. For obvious reasons, too great emphasis cannot be placed on the importance of effective treatment. Cathartics, enemata, etc., increase rather than reduce the bowel condition and the surgeon is confronted by the question of what to do to relieve the situation.

Clinical experience has shown that there is no other measure so effective as a corrective of post-operative constipation as a good, pure mineral oil such as Interol. An excellent way of assuring maximum benefits from this product is to begin its use one to three days following operation, giving two drams every two hours until one to three days after the oil has passed through the tract, whereupon it is stopped and then resumed every three, then every four hours; then when the patient's diet becomes more liberal, thrice daily, in one to two-ounce doses, gradually decreasing the quantity or the frequency, as conditions indicate.

Thus employed, Interol softens the feces and lubricates the canal, thus assuring easy bowel evacuation, without straining and with gratifying avoidance of the irritation and stimulation that usually accompany the use of cathartics.

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(Helpful Points continued one leaf over.)

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Harrower "Sanitablets"

The Harrower Pluriglandular Formulas are now supplied as friable tablets. Each dose is individually wrapped in paraffined paper—air-tight and moisture-proof.

"Sanitablets" have the same formulas, list numbers and prices as the corresponding Harrower capsules.

In asthenia, low blood-pressure, sub-oxidation, subnormal temperature and other conditions requiring "adrenal support"—prescribe S. T. Adreno-Spermin Co. (Harrower). The initials S. T. stand for "Sanitablet"

For further information address: The Harrower Laboratory, Box 68, Glendale, Calif.

Post-Operative Constipation

Neglect of the bowels after operation is always apt to give rise to serious consequences. In addition to the depressing effect on the whole body, resulting from the absorption of toxins from retained waste products, the contents of the lower bowel become so inspissated and dessicated that their ultimate evacuation is accomplished by such mechanical difficulty and severe straining that grave harm is often done, particularly to the site of the wound.

Hernias are frequently produced, while hemorrhoids are a common outcome. Other ill effects are prone to follow; post-operative constipation and its persistence often makes an operation a complete failure. For obvious reasons, too great emphasis cannot be placed on the importance of effective treatment. Cathartics, enemata, etc., increase rather than reduce the bowel condition and the surgeon is confronted by the question of what to do to relieve the situation.

Clinical experience has shown that there is no other measure so effective as a corrective of post-operative constipation as a good, pure mineral oil such as Interol. An excellent way of assuring maximum benefits from this product is to begin its use one to three days following operation, giving two drams every two hours until one to three days after the oil has passed through the tract, whereupon it is stopped and then resumed every three, then every four hours; then when the patient's diet becomes more liberal, thrice daily, in one to two-ounce doses, gradually decreasing the quantity or the frequency, as conditions indicate.

Thus employed, Interol softens the feces and lubricates the canal, thus assuring easy bowel evacuation, without straining and with gratifying avoidance of the irritation and stimulation that usually accompany the use of cathartics.

The more that Interol is used for preventing post-operative constipation with its often serious consequences, the more evident it becomes that it affords uniformly effective results with complete freedom from objectionable action or effects.

Sample and Interol brochure will be sent to AMERICAN PHYSICIAN readers on request. Address: Allied Drug and Chemical Corporation, 2413 Third Avenue, New York City.

(Helpful Points continued one leaf over.)

ANUSOL
(Trade-Mark)
Hemorrhoidal SUPPOSITORIES

They break the "Vicious Circle" in Hemorrhoids

Hemorrhoid sufferers are always inclined to become careless and dilatory in their bowel movements, for fear of painful defecation.

And right there starts the "vicious circle"—constipation, local irritation, aggravated Hemorrhoids, painful defecation, increased irregularity, and so forth.

Anusol Suppositories remove the dreaded strain and the reassured patient resumes his regular bowel function.

Then the excellent healing and tonic action of Anusol Suppositories can *set in* and do its utmost without *set-back*.

And the utmost of Anusol Suppositories accomplishment is the utmost in Hemorrhoidal therapy.

Ample Trial Quantity and Literature from

SCHERING & GLATZ, INC., 150 Maiden Lane, New York

McK & R

McK & R Compound Stearate of Zinc for the Baby's Summer Comfort

THE summer season is particularly trying on babies. They develop irritative skin condition, eruptions and chafings from the acid perspiration stimulated by the excessive heat and humidity.

They are more liable to "diaper rash" than in colder weather—as the skin surface is more susceptible to the irritating effects of urinary and fecal discharge.



You greatly relieve all these troubles for your little patients, Doctor, if only you will advise the liberal use of McK & R Compound Stearate of Zinc.

After the bath, Compound Stearate of Zinc applied as a routine measure, tends to overcome prickly heat, and skin discomforts generally. A liberal dusting with McK & R Compound Stearate of Zinc around the genitals and in the tissue folds, will render the local surfaces moisture-proof, and prevent the irritation following acid discharges. Do not forget Compound Stearate of Zinc as a valuable aid in preventing and overcoming sunburn, in adults as well as children.

If you're not already familiar with McK & R Compound Stearate of Zinc, send card for literature and samples of this valuable product.

McK & R

McKESSON & ROBBINS
INCORPORATED
Manufacturing Chemists
91 Fulton Street, New York City

For the Doctor Who Wants Results

we supply a number of practical, ethical products such as

PULVOIDS NATRIUM COMP., which is rapidly becoming recognized as the most reliable and effective combination for reducing high blood pressure and maintaining normal tension.

Salvarols Suppositories
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require no technique and obtain action and results equal or superior to arsphenamine intravenously injected.

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in conjunction with other indicated measures secure satisfactory results in diabetes mellitus. A trial will convince.

ENDOCRIN AND GONAD products, a complete line, **at reasonable price,** and of premier quality.

Send for literature, case reports, price lists and our little periodical "Drug Products," gratis to physicians

THE DRUG PRODUCTS CO., Inc.
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Relieve Pain Effectively

Pain is a symptom that means more to the patient than any other—every patient wants relief of pain.

Heat is undoubtedly one of our best means of relieving it—not covering up—but constructively relieving pain. The particularly effective method for bodily application of heat is by means of radiant light and heat made available by the Thermolite Light and Heat Applicator.

You will find many and varied uses for a Thermolite in your practice. Physicians who have used this effective means of applying radiant light and heat, would not be without the Thermolite. You also will find it invaluable as an aid in your practice.

Write for interesting and instructive literature to H. G. McFaddin & Co., 34 Warren Street, New York.

For Undernourished Infants

Virol has solved that ever vexing question: what nourishment to give the delicate undernourished infant—for many physicians. Virol is composed of Red Marrow, extracted from ox rib and calves' bones by C. P. of glycerine, refined marrow and beef fat, highly diastasic malt extract, eggs, lemon syrup and soluble phosphates.

In serious cases of acute infantile diarrhea the addition of Virol, under suitable conditions, enormously stimulates the phagocytic powers of the white blood cells. These sturdily attack the microbial invaders, and by diminishing the intestinal flora cut off the production of toxius at their source, with a consequent reduction of the catarrhal condition of the mucous membrane. As the glandular secretions become more normal they again exercise their inhibitory effects upon the flora, and digestion and assimilation are again established.

Liberal samples of Virol and interesting literature will be mailed to physicians on request. Address: Geo. C. Cook & Co., Inc., 59 Bank St., New York.

Summer Comfort for Babies

Summer is particularly hard on babies, as every physician knows. Irritating skin conditions are liable to develop, eruptions and chafings, diaper rash, prickly heat, etc.

You will greatly relieve all these troubles for your little patients by advising the liberal use of McK & R Compound Stearate of Zinc. A liberal dusting with McK & R Compound Stearate of Zinc will go far toward making a comfortable, therefore a healthy, baby during hot weather.

If you do not know this valuable product, send a card now for literature and samples. Address: McKesson & Robbins, Inc., 81 Fulton Street, New York City.

A New Organic Mercurial

Mercury is one of the drugs that have survived misunderstanding and abuse by the sheer force of inherent therapeutic merit. For a time after salvarsan was discovered it looked as though the days of mercury as an antiluetic were over, but there has been much disillusion on this point in recent years, and mercury is now as strongly entrenched in professional confidence as it ever was—more so, in fact, as a result of developments in pharmaceutical manufacturing methods which have given us improved mercurial compounds.

The latest of these is Mercurosal, a Parke, Davis & Co. product, which is supplied in single intramuscular and intravenous doses in glass tubes ready to be made

(Helpful Points continued one leaf over.)



A Typical Case.

This Doctor Relieved "Lordosis"

Little girl was confined to her wheel chair and now runs and plays like other children.

It has been said that 30% of the entire population of the U. S. is afflicted to some degree with spinal trouble. Of this percentage we earnestly believe 60% could be cured by use of the Philo Burt Method of Spinal Correction; and 90% of cures could be affected in childhood by its use.

The following case is only one of hundreds that we have in our case records, showing splendid recovery of children who otherwise would have been doomed to a hopeless, helpless life as a hunchback or cripple. We want to co-operate with every doctor in the U. S. and foreign countries who has any cases under observation. Read what this physician says of his experience in an extremely severe case:

"The little Pelham child has made a wonderful improvement since she commenced to wear your Philo Burt Appliance. She is a very nervous, active child and before she wore the appliance could not stand on her feet alone and had to be wheeled in a chair. Now she runs and plays like the rest of the children and enjoys life. Your appliance is certainly a great boon to suffering humanity."

DOCTOR we will make a spinal appliance to your order for any case and allow a **30 Day Trial**

Every Philo Burt Appliance is made to special measurement and fitted under our absolute guarantee of satisfaction or money refunded. It lifts the weight of the head and shoulders off the spine, and corrects deflections. It does not chafe nor irritate; weighs ounces where other supports weigh pounds, and is easily adjusted to meet improved conditions as the spine straightens and the body assumes its normal condition and form.

It can be put on and taken off in a moment. It is easily removed for the bath, massage, relaxation or examination. The price of the Philo Burt Appliance with the special course of exercise is within the reach of all. We would like to send our Physician's Portfolio to any practicing physician without charge, and explain to him how we co-operate with the local physician, surgeon, or specialist in Orthopedic practice.

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Tested Organotherapeutic Formulas in a New and Better Package

Harrower "Sanitablets"



The Harrower Pluriglandular Formulas are now supplied as friable tablets. Each dose is individually wrapped in paraffined paper—air-tight and moisture-proof. "SANITABLETS" have the same formulas, list numbers and prices as the corresponding Harrower capsules. This new form prevents fraudulent substitution, as the Harrower "SANITABLETS" cannot be counterfeited.

Prescribe:

S. T. Adreno-Spermin Co.
(Harrower)

for asthenia, low blood-pressure, suboxidation, subnormal temperature, and other conditions requiring "Adrenal Support."

(The initials "S. T." stand for "SANITABLETS")

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Home Office: Box 68, Glendale, California

NEW YORK, 31 Park Place — **BALTIMORE, 4 E. Redwood St.**
CHICAGO, 186 N. La Salle St. — **KANSAS CITY, MO., 711 K. C. Life Bldg.**
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THE older members of the Medical Profession have found

Pluto Water



excellent for the counteraction of those drugs which suppress secretions and in prescribing this valuable water in small doses the action is to flush the intestinal canal and stimulate the liver to remove from the ducts the accumulated secretions.



Many practitioners direct convalescent patients to the spring for rest and complete treatment.

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Operative Surgery

Special course in general surgery, operative technique and gynecologic surgery given to physicians of both sexes. Enrollment limited to THREE.

First assisantship--No cadaver or dog-work

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"A fine strong girl born a month ago, steadily lost ground, in fact was rapidly falling away. The Mother's Milk did not at all agree or satisfy. I tried all the leading foods and milk in various modified forms. But nothing satisfied until I sent for a bottle of Nestlé's Milk Food, when, with the first feeding, the little one improved almost as if by magic. The child is now living wholly on Nestlé's Milk Food, and is doing well."

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In emergency cases or for routine use you may safely rely upon Nestlé's Milk Food as a dependable nourishing food for babies.

Nestlé's is simply pure cow's milk modified by the addition of malt, cereals and sugar and then reduced to powder form. It is milk, free from pathogenic bacteria, in a form which is easily prepared and readily digested.

Your name and address will bring liberal samples.

Nestlé's Food Company

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up into aqueous solutions for injection.

Mercurosal is said to possess the unique distinction of being absolutely bland in contact with the delicate tissues of the venous walls; and intramuscularly it is said to cause very little pain.

Write to Parke, Davis & Co. for literature on Mercurosal.

Authoritative Evidence on Yeast

An investigation of the effect of fresh yeast on uric acid excretion in normal persons has been recently conducted and reported upon. (See *Jour. Laboratory and Clinical Med.*, May, 1922). Although three of the subjects ate twice the therapeutic dose of yeast, two ate three times the dose, and one ate five times the dose, the summary states that "there is no evidence of an increase in uric acid excretion following the ingestion of the recommended therapeutic dose of live yeast." It seems therefore that the ingestion of yeast does not increase uric acid excretion, and that, therefore, the advantages of yeast therapy are safely open to the nephritic and to those suffering from gout.

A new authoritative book on the manufacture, chemistry, physiology and therapy of yeast, in which you will be interested will be sent to you free, address: The Fleischmann Company, Dept. S-7, Washington Street, New York City.

Stabilizes "Shaken" Nerves

Nervous debility, nervous exhaustion and all asthenic affections of the nervous system, so prevalent today, will respond to treatment which will replenish the reduced mineral reserves of the system and supply the necessary phosphorus to restore degenerated nerve cells. This can be accomplished in most cases by Fellows' Syrup of the Hypophosphites.

Samples and literature will be sent on request to AMERICAN PHYSICIAN readers. Address Fellows Medical Manufacturing Co., Inc., 26 Christopher Street, New York.

Congestive Dysmenorrhea

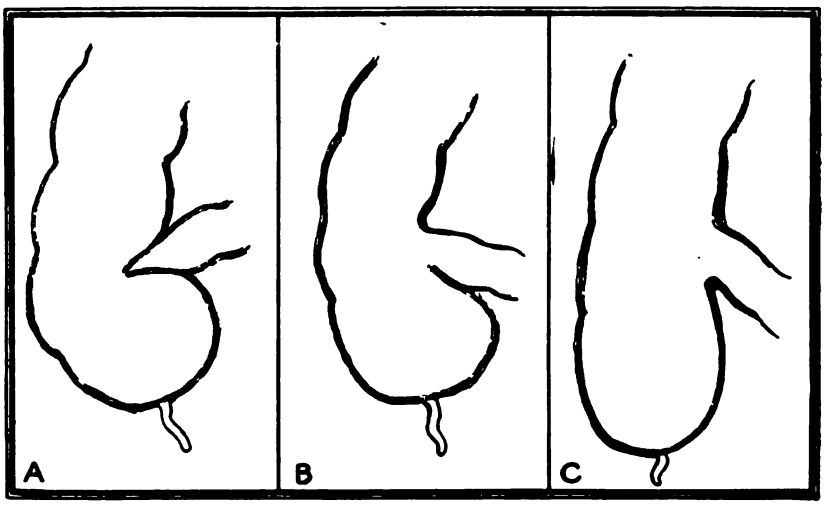
Dr. F. H. Davenport, A B., M.D., Assistant in Gynecology, Harvard Medical School, in his book on "Disease of Women" and under the above caption refers to the treatment of congestive dysmenorrhea and the use of anodynes He says, "It is by all means wisdom to avoid in these cases, if possible, all the use of stringer sedatives and anodynes."

In referring to the use of medication in these cases, Dr. Davenport, in his most excellent work on "Non-Surgical Gyecology," says: "Hayden's Viburnum Compound has seemed to be the most effectual remedy of this class, given in hourly teaspoonful doses in hot water, for five or six times."

That Hayden's Viburnum Compound is of inestimable value in the treatment of dysmenorrhea is not only indicated by its employment by gynecologists of today, but in the past by no less an authority than J. Marion Sims, who prescribed it and recommended its employment.

Hayden's Viburnum Compound is not a narcotic and contains no habit-forming drugs. It is a product of known composition and as a uterine sedative it holds first place in the opinion of many physicians as not only a dependable therapeutic product, but a remedy wihch is safe to administer to their patients. Given in teaspoonful doses, administered in hot water, it will prove most effective. Samples on request. New York Pharmaceutical Co., Bedford Springs, Mass.

(Helpful Points continued one leaf over.)



A. Normal Ileocecal Valve. B. Partially Incompetent Ileocecal Valve. C. Wholly Incompetent Ileocecal Valve.

Reproduced from "Colon Hygiene," by J. H. Kellogg, M. D.

The incompetent ileocecal valve and Petrolatum Liquidum

A noted authority, whose observations have covered hundreds of cases, states that aside from routine measures, the regular use of liquid petrolatum is the most effective means of combating incompetency of the ileocecal valve. Medicinal laxatives increase the antiperistalsis by which the reflux from the colon into the small intestine is increased. Liquid Petrolatum increases the motility of the small intestine, but does not increase antiperistalsis.

To find a viscosity which would give Nujol its greatest efficacy, its makers conducted exhaustive research and clinical test. Consistencies were tried, ranging from a thin fluid to a jelly. The viscosity finally adopted is the one best suited to human requirements and is in accord with the opinion of the highest medical authorities.

That the value of Nujol to the medical profession is generally recognized is attested by its use by physicians and in hospitals the world over. Sample and authoritative literature dealing with the general and specific uses of Nujol will be sent gratis.

Nujol

REG. U.S. PAT. OFF.

A Lubricant, not a Laxative

Guaranteed by Nujol Laboratories, Standard Oil Co. (New Jersey)

44 Beaver Street, New York City

Agar Agar Effective in Constipation

Some cases of constipation are extremely difficult to bring back to normal—all cases of constipation demand attention. Mansfield Agar Agar Wafers—a drugless laxative food—offer a reasonable and effective method of treating most cases of constipation.

The hygroscopic properties of agar and the vitalizing qualities of the entire wheat grain combined, have resulted in a product of proven value in the treatment of constipation due to intestinal atony. Test this out—write for a package of the wafers—it will be sent free to AMERICAN PHYSICIAN readers. Address: The Mansfield Laboratories, Inc., 18 Chandler Street, Boston, Mass.

Brings Prompt Relief

The summer season brings with it a number of physical annoyances, not to say ailments, which react most unfavorably upon the mental condition, and which frequently send the sufferer to the physician in search of relief.

A nasal mucous membrane that is at all sensitive responds quickly to the irritation produced by dust, the pollen of plants, and even those variations in temperature and atmospheric pressures that characterize the heated term.

An agent, par excellence, which brings about prompt relief and maintains constant comfort in such cases, is Alkalol, what is true of the nose is also true of the throat, in which Alkalol is equally effective. Irritations and inflammations of the conjunctiva or inflamation of the external auditory canal promptly yields to Alkalol.

A post card will bring samples and interesting literature to AMERICAN PHYSICIAN readers. Address: The Alkalol Company, Taunton, Mass.

Assures Immediate Relief

To allay the itching, smarting and burning of the heat rashes, there is no lotion more effective than Pond's Extract, full strength or diluted with water equal parts.

It is cooling, soothing, and anti-pruritic, and the use of Pond's Extract assures immediate relief in the treatment of hives, sunburn, chafing, ivy-poisoning and similar conditions.

Tannalb:n—Tablets

With the greatest prevalence of diarrhea and intestinal catarrh in the warm season, it is timely to draw attention to the popular tannalbin tablets. They each contain 5 grains of Tannalbin and are especially suited for children. Older children may chew them, while infants may take them crushed in oatmeal gruel. If only half the dose is desired they may be cut in two. Physicians will be pleased to find that these tablets are a convenient and rapidly acting remedy for intestinal catarrh especially in infants during the summer months. The drug may also be obtained in powder form. Literature and samples from E. Bilhuber, Inc., 25 West Broadway, New York.

Reliable Effective Synthetics

Physicians are finding these two synthetics clinically effective: Creasep and Iodomer, manufactured by Dr. S. Lewis Summers, producer of synthetic chemical compounds, Fort Washington, Pa.

Creasep — benzylidene-dibenzyl-diethyl methylene-diiodo-diguaicol—contains 25% of iodine in an unirritating and assimilable form. It is a valuable alterative and antiseptic, especially useful in influenza, pneumonia and chronic bronchitis. The price is $1.00 per ounce.

(*Continued one leaf over.*)

CHLORYLEN

A New Treatment for Trigeminal Neuralgia

Chlorylen is used with marked success in the treatment of tri-facial neuralgia. It has a specific action on the sensitive Trigeminus, gives immediate relief and the pain disappears after a few treatments.

Chlorylen is applied by inhalation. 20 to 30 drops are placed on cotton or the handkerchief and inhaled through the nostrils, until the odor disappears. It is a volatile liquid with a pleasing odor and is obtainable in bottles of 25 grams each.

NEUTRALON

A substitute for the Bismuth salts, Sodium Bicarbonate, Silver Nitrate, etc., in the treatment of Hyperchlorhydria, Hypersecretion, Ulcus Ventriculi, etc. A white, tasteless, odorless powder; supplied in packages of 100 grams each. The dose is one teaspoonful in a glass of water before food.

VALAMIN

A sedative and soporific for use in the treatment of Neurasthenia, Insomnia, Hysteria, Palpitation of the Heart, etc. It is a Valerian and Amylene combination, is easily absorbed and acts promptly. Valamin is marketed in packages containing 25 capsules of 4 grains each. The dose is one or two capsules after meals. In nervous insomnia, two to four capsules should be taken before retiring.

For further information and literature address:

KIRBACH, Inc., General Agents, 227-229 Fulton St., NEW YORK

Stomachic Rebellion

is **not** in the clinical picture when you use BENZYLETS.

That is an outstanding consistently constant clinical fact when these gelatin globules each carrying five minims of **medicinally pure** benzyl benzoate are used. At your druggist's in 24's.

BENZYLETS—

non-narcotic, non-toxic analgesic-antispasmodic in pain and spasm of unstriped muscles

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TAUROCOL TABLETS (TOROCOL)

A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

FOR

Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS
(TOROCOL)

With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.
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Laboratories Clin

Electric colloidal silver finely divided in stable and sterile solution is supplied in the form of

ELECTRARGOL

The extremely minute particles of colloidal silver assure maximum activity and catalytic power.

In ampoules of 5 mils (5 cc), 6 in a box.
In ampoules of 10 mils (10 cc), 3 in a box.
Also in bottles of 50 mils (50 cc) and 100 mils (100 cc).

For All Infectious Conditions

Literature and Sample on Request

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PARIS, FRANCE

Mentioning The American Physician Insures Prompt, Careful Service

Iodomer is a synthetic which contains 25% mercury and 29% iodine in organic combination. It reacts chemically on the spirochetes of syphilis and is used also in place of the many inorganic compounds of iodine and mercury. The price is $1.00 per ounce. Write to Dr. Summers for supplies or further information.

Correction of Constipation and Autotoxemia

Besides lubricating the canal, Interol renders the feces soft and plastic, thereby promoting their easy passage and evacuation with gratifying freedom from discomfort and distress. Interol is a pure mineral oil of the proper density and viscosity to assure satisfactory lubrication of the intestinal canal, and thus relieve and correct bowel inactivity without the usual disagreeable effects of cathartics as commonly employed. This pure, tasteless and odorless mineral oil is notably free from the greasiness common to such products. Interol will be found effective in the correction of constipation with its attending autotoxemia conditions.

For sample and interesting brochure, address: Allied Drug and Chemical Corporation, 2413 Third Avenue, New York City.

Purity and Food Values of Green Olives

Recent newspaper stories have raised a question as to the wholesomeness of olives. But it must be borne in mind, when reading such reports, that green olives are not to be confused with ripe olives; that Spanish green olives differ radically from ripe olives in harvesting, curing, packing, color and taste. No suggestion of unwholesomeness has ever been connected with Spanish green olives in newspaper reports or elsewhere. In fact, they are pronounced a food of considerable importance by the Department of Agriculture, and are known to have a very high caloric value and contain in their oil one of the three perfect fats.

Hot Weather Therapeutics

The house physician at a big summer resort hotel last year bought gallon after gallon of Alkarhein, saying that he found it of great value in the numerous cases of gastric trouble among the guests.

Every physician has a great many patients who suffer from gastric disturbances in the summer time which will be relieved promptly and permanently by Alkarhein, an alkaline elixir of rhubarb and hydrastis. This preparation has grown steadily in popularity with practicing physicians ever since its introduction many years ago, for no other combination meets so effectively such a wide variety of those complaints which are incident to the summer season. If your druggist does not have Alkarhein in stock—and most of the druggists do have it—he can get it for you from the nearest legitimate jobber. The Wm. S. Merrell Company, Cincinnati, Ohio, who make Alkarhein will be glad to send a free sample and theraupeutic notes on its constitution and uses to AMERICAN PHYSICIAN readers, on request to them direct.

The Original Russian Mineral Oil

Usoline was the first mineral oil put on the market in this country. And while exaggerated claims have never been made for it—the many physicians who have been employing this product have found it effective and dependable in every way.

Usoline is a highly refined 100% imported Russian mineral oil, with properly adjusted gravity and viscosity. It contains no sulphur or acid impurities, no bloom or fluorescence and no taste.

For clinical test, a 6-ounce bottle of Usoline will be sent to AMERICAN PHYSICIAN readers free; write for it. Address: Oil Products Co., Inc., 50 Union Square, New York, N. Y.

(*Continued one leaf over.*)

GONOSAN
"RIEDEL"

To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

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LISTERS DIABETIC FLOUR
Strictly Starch-free. Produces Bread, Muffins, Pastry that makes the distressing features of
DIABETES Grow Less and Less
Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85
LISTER BROS. Inc., 405 Lexington Avenue, New York City

History of Dental Anaesthetics—No. 2

1846—"Letheon"

IN September, 1846, Dr. W. T. G. Morton, a former pupil of Dr. Horace G. Wells in Dentistry, went to a chemist in Boston, Charles T. Jackson, to learn how to make Nitrous Oxide Gas.
On the advice of Jackson, he purchased some **Sulphuric Ether** and on September 30th, 1846, tried it on a boy named Ebon Frost. Following up the success of this operation Morton and Jackson experimented further with Ether, resulting in their patenting the discovery of anaesthetic effects of Ether, the patents being issued to Dr. Morton, who then called his product "Letheon."
Anaesthesia is the name suggested by Oliver Wendell Holmes to Dr. Morton, to describe the condition produced by the inhalation of Sulphuric Ether.
'Tis a far cry, indeed, from the anaesthesia as produced by this anaesthetic to that as now induced by the Conduction method with





Dr. R. B. Waite's

Antiseptic Local Anaesthetic

(with Procaine 2%, or with Cocaine 1%)

The quality and duration of the anaesthesia are such that the most complicated and extensive operations may be performed without the patient experiencing any pain; the anaesthesia which persists long after the operation relieves any post-operative pains. The factor of Safety must also be considered, for there has never been a fatality from its use during thirty years that it has been used in every country in the world, in millions of operations.

IN BOTTLES
1 oz. 2 oz.
IN AMPULES
1½cc; 2½cc; 3cc

Check and Mail This Coupon Now!

☐ Please send sample box of ampules of Dr. R. B. Waite's Local Anaesthetic Free.
(Send professional card or stationery)

Name _____

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Date _____

THE ANTIDOLOR MFG. CO.
32 Main St., Springville, N. Y.

Specialties *for* TONSILLITIS

Benzomint

INTERNAL REMEDY

Compound of Sodium Benzoate with Alkaloids of Calisaya

A TIME-TESTED, highly therapeutic formula which has proved a veritable wonder worker in many thousands of cases of Tonsillitis. Benzomint has pronounced antiseptic and antipyretic properties. It soothes instantly the intense pain from swollen, inflamed glands, and quickly counteracts both local and systemic infection.

Glycodin

(GARGLE)

AN efficacious astringent and antiseptic gargle of great value in the treatment of Tonsillitis.

Pint, $1.00; Five Pints, $4.50; Gallon, $6.00. Either preparation. Send for samples and literature

THROAT SPECIALTIES LABORATORIES

(MILBURN PHARMACAL CO., INC.)
BALDWIN, L. I. NEW YORK

McKesson & Robbins
Wholesale Distributors
New York City

A Stand-By in Uterine Troubles

VIBURNO

(BEACH)

The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles

Sample and Formula on Request

THE VIBURNO COMPANY

116 Maiden Lane, New York

Sal Hepatica

THE STANDARD SALINE LAXATIVE

Samples on request

Bristol-Myers Co.

NEW YORK



Has Proven Its Value

As a cough sedative and antispasmodic, Diatussin has proven its value in the hands of many clinicians.

When other measures fail you can rely on Diatussin. Try it and you will benefit through diminished individual attention in all cases of persistent cough; particularly whooping cough during paroxysmal stage, when Diatussin administered regularly will reduce expiratory blasts and quickly terminate the disease.

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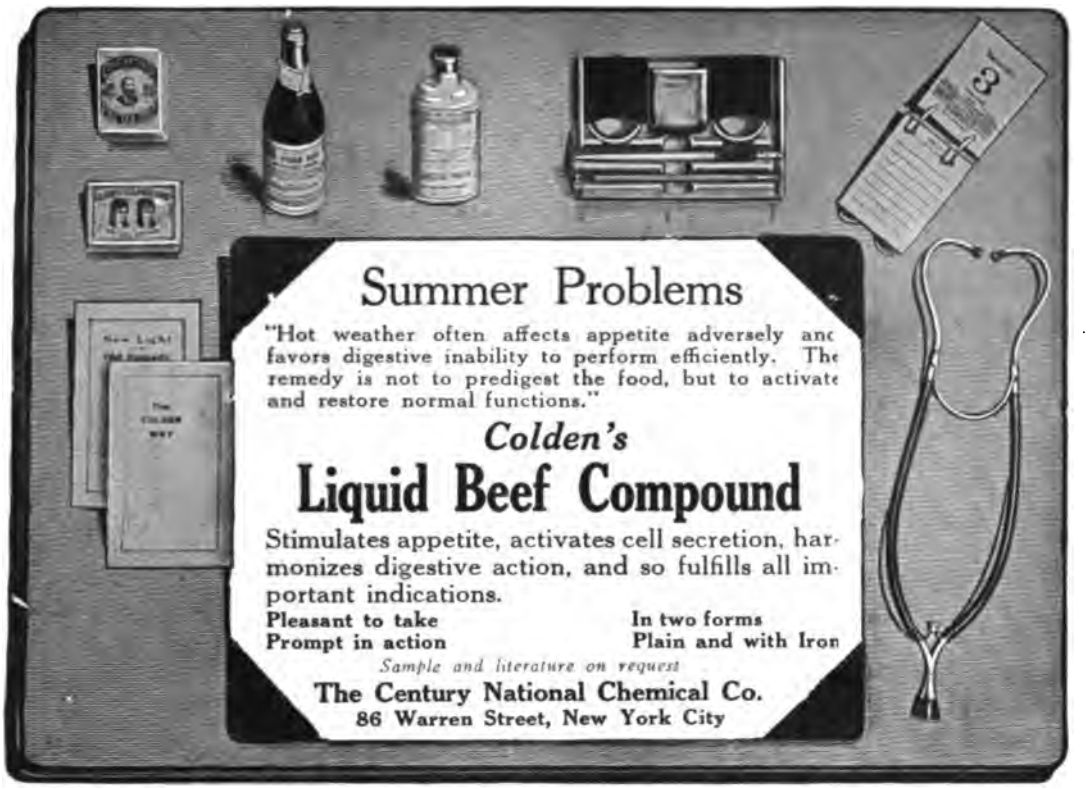
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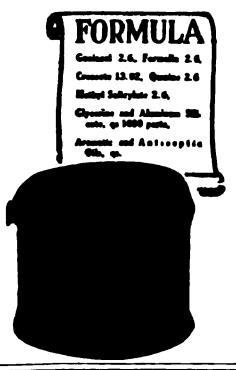




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Our Advertising Standards

[*Continued over from preceding page*]

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August THE 1922

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A SPONTANEOUS EDITORIAL

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A Message of Hope

ARTHRITIC CONDITIONS AND AN EFFECTIVE REMEDY

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Rheumatism
Gout
Neuralgia
Neuritis
Sciatica
Lumbago
Migraine

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Dr. Hardy presents a series of highly interesting cases, which incidentally illustrate some of the "shocking" circumstances under which some of our surgeons are called upon to operate. It also demonstrates the daring, adaptation, efficiency, and excellent results our surgical colleagues are securing among trying environments in the scattered portions of our vast country.

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"A POWERFUL ANTISEPTIC, SOMEWHAT STRONGER IN THIS RESPECT THAN MERCURIC CHLORIDE AND CONSIDERABLY STRONGER THAN PHENOL."

(COUNCIL ON PHARM. AND CHEM. A. M. A.)

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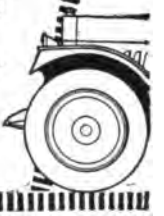
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AUTHORITATIVE EVIDENCE
(Photographically Reproduced)

Herewith is a photograph of Page 95, Vol. 11, "Diseases of Women," as edited by H. Marion-Sims, M D, and in Dr Sims' own words, is recorded the high esteem in which he held *Hayden's Viburnum Compound* and the "great service" rendered in treating

DYSMENORRHEA

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DYSMENORRHŒA. 95

It has been long known that rest is most efficacious in relieving dysmenorrhœa. Some patients habitually go to bed during the menstrual process, finding so much relief from the position. There is nothing therefore new in the recommendation to rest at this time, but experience has shown that the positional treatment above described carries the effect still further. The treatment is particularly valuable in the case of young single women who are suffering from dysmenorrhœa not of such severe character as to render internal treatment imperatively necessary. And indeed I have in several cases employed positional treatment with great success where no examination at all had been made, but where the symptoms and general history conclusively showed that the patients were suffering from commencing uterine flexion.

Positional treatment is also very valuable as an adjunct in cases where internal mechanical apparatus are in use.

Palliative Measures.—Rest, the horizontal position, postural treatment, as above described, are all of first-rate importance. The warm hip-bath, temperature 100° or even higher, is to be recommended. Copious vaginal injections of hot water are sometimes found very serviceable. Ether, compound spirit of sulphuric ether, camphor, and henbane are ordinary and very useful remedies. Gin and water is a common domestic remedy. Poultices with laudanum sprinkled over them, hypodermic injections of morphia, turpentine stupes, are other remedies occasionally employed. Suppositories containing opium or morphia are very effective, but the use of opium is not advisable unless under strict medical orders. Chloral and bromide of potassium are good remedies. Guaiacum (Dewees), black hellebore (Meigs), have been strongly recommended. Colchicum, cannabis indica, and in fact every sedative and anti-spasmodic in the pharmacopœia, have been employed for the relief of the pain with more or less success.

[For severe dysmenorrhœa I have frequently found Hayden's Viburnum Compound of great service, given in teaspoonful doses every hour (or three or four hours).]

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The American Physician

Vol. 27 August, 1922 No. 8

SPONTANEOUS EDITORIALS; An American Physician development of journalistic service; see footnote.

A Bird's Eye View

of

APPLIED THERAPEUTICS*

By A. C. MORGAN, M.D.,
2018 Chestnut Street, Philadelphia, Pa.,
Associate Professor in Medicine in the Medico-Chirurgical College, Graduate School, University of Pennsylvania.

Empiricism Followed by Scientific Observation

"Empiricism accomplished much at the hands of our forbears who were keen in observing the physiologic effects of medicine upon individual patients. Later instruments of precision have confirmed the findings of those investigators and definite results can now be looked for in the light of scientific accuracy."

)URING THE PAST DECADE the literature has not shown much advanced work along the e of Applied Therapeutics. Twenty-five years) vegetable drugs were almost exclusively used, n came a wave of therapeutic nihilism with, at esent, a renaissance, the tendency today being ng the line of serums, vaccines, endocrines and siological chemistry.

)r. William C. Braisted, President of the Philadela College of Pharmacy, recently made the statet that the commercial drug houses of the country e practically a monopoly of the therapeutics of y. Empiricism accomplished much at the hands our forebears, who were keen in observing the siologic effects of medicine upon individual pats. Later instruments of precision have confirmed findings of those investigators and definite results now be looked for in the light of scientific accu- . The end results of many scientific observations ide well with the findings of these original obrs.

Polypharmacy is now less practiced and single drugs are now universally used. The combination of certain drugs which may act closely along similar lines are often used with better effect than a larger dose of the single drug.

A few years ago the *Medical Review of Reviews* conducted a questionnaire to ascertain the five drugs that are considered to be of greatest importance to the physician, with the following result: Opium, mercury, cinchona, digitalis and iodine, the list being followed closely by arsenic and the salicylates.

The tendency today and, along the right line, is to have fewer preparations of each drug, but to have these preparations standardized so that they may be used with the confidence of obtaining definite results.

Serums and Vaccines

Serums and vaccines have an established place in therapeutics, but their chief value is as prophylactics and not as curatives; thus prophylactic injection of anti-typhoid vaccine and anti-tetanic serum exert their best effects when given as soon as suspicion of contact arises. Conversely, we find that gonorrheal vaccines and tuberculosis vaccines seem to act better during the chronic stages of these affections. Influenza vaccines are considered, by many, good prophylactics but are of no avail after the symptoms become pronounced; they would seem in some cases to lessen the severity of or tendency to pneumonia as a complication. The use of pneumonia vaccines or bacterins has not yet reached the stage where we can definitely say that they will uniformly yield favorable results. Caution must be observed in any case wherein the use of serum or vaccines is contemplated by reason of the danger of anaphylaxis. This is extremely important in individuals who have or have had asthma, or in whose family this taint exists. Adrenalin chloride in 10 or 30 drop doses given deep into the skin, or, in extreme cases directly

SPONTANEOUS EDITORIALS

The editorial form has a journalistic value *all its own*—a quality of *concisely illuminating* a subject like a searchlight playing over a landscape. Unfortunately, however, the editorial is subject to *the limitation* of being so largely *occasional* writing—forced expression for the occasion. Frequently we receive short pithy contributions that have the *natural* qualities of the editorial plus the *vigor* of spontaneous expression; are in fact *spontaneous editorials*. It has occurred to us to give them a *particular attention* they *merit*.—The Publishers.

into the jugular vein, massaging the vein from above downward, will sometimes overcome the violent collapse and shock that accompany this dread condition.

Endocrine Therapy

Endocrine therapeutics is just now at its crest of popularity, probably due to the pernicious advertising of commercial houses who are putting out enthusiastic, if not always correct, reports of results obtained. The pendulum will swing back in a little time, after which endocrine therapeutics will find its proper sphere.

Studies of animal extracts and organo-therapy have been made for many years, but during the past two or three decades there has been a steady advance in our knowledge of these valuable means of therapeutics.

Venesection

Venesection has long been a discarded procedure, but it is again being used in properly selected cases. Instead of resorting to the old method of cutting the skin and incising the veins, this indication can in most cases be met by insertion of a Wassermann needle in a good-sized vein and the withdrawal of a sufficient amount of blood, leaving the vein intact. This method is more expeditious and is apparently safe. Lumbar puncture is now the accepted procedure for anesthesia, diagnosis and relief of cerebral pressure, especially during convulsions, as in uremia, and also for the introduction of antiluetic medication and the meningococcus serum.

Gymnastics, Mechanotherapy, and Rest Cures

For many years the medical colleges of this country have been lax in the proper balance of their curricula, becoming top heavy with minor subjects, whose chairs happened to be occupied by men of political, rather than of scientific attainments, at the expense of the more practical subjects in whose training they were remiss. Very little was said and still less done with regard to the indications and application of massage, gymnastics, mechanotherapy, rest cures and sanatorial treatment, so that now when the young man enters upon active practice he has no knowledge of or preparation in these subjects. The crying need for knowledge of this sort on the part of the physician and the needs of the suffering public has given rise to the birth of cults that raise a stench in the nostrils of decency because of their false claims, excessive fee charging, general sophistry, and cruel imposition on the credulity of an ignorant public. The medical profession has been remiss in its duty to the public and the blame will continue to rest upon us, especially the medical colleges, until these sins of omission have been corrected.

*Read before the Lackawanna County, Pa., Medical Society, April 18, 1922.

Avoiding the Therapeutic Danger Line

PHILLIPS, in the *Journal of the American Medical Association*, April 22, 1922, warns against the toxicity of phenobarbital (luminal), citing many cases and quoting numerous authorities. Grinker and many others have been strongly advocating its use in the treatment of epilepsy and insomnia and dosage has been run up to as much as 12 grains, 4½ grains frequently repeated being common practice. Now, after numerous serious cases of poisoning have been reported, Phillips contends that the single dose should never exceed 1½ grains and never more than 3 grains in twenty-four hours. These small doses would probably be safe but they would not be effective.

This recalls to mind that, some time ago, the same journal recommended 1½ grains as the proper dose of acetanilid. Doctor, do you remember the large doses you used to give? In the influenza epidemic of 1889-'90 antifebrin was largely in vogue, and after the epidemic was over and the physicians got together in medical society meetings to compare notes it was agreed that we gave excessive doses. Yet this drug is acetanilid under a trade name, and we thought it was perfectly safe. We know better now.

Barbital (veronal) is relatively much more safe, for it is a diethyl, whereas in the case of luminal one ethyl is replaced with phenyl; yet the dosage of 15 grains often recommended is excessive. Of late some scamps have been selling it, mixed with milk sugar, as "powdered whiskey" and such use, of course in large doses, results in a twenty-four hour "jag" of a stuporous nature that reminds one of the action of the old "knock-out drops" made of chloral. The recommended dosage of barbital is coming down, down, down—just as in the case of heroin, which at first was "harmless" and given in doses of one-sixth of a grain, until we learned better.

Heinemann in THE AMERICAN PHYSICIAN, April 1922, warned against the unwise and excessive use of acetyl-salicylic acid (aspirin), and he is not alone in his warning. We have ourselves seen seventeen cases of aspirin poisoning, most of them from reckless dosing.

Recall, if you will, the "1921 excitement," as benzyl benzoate has been called, and the final conclusion that to be effective it must be given in dosage that the therapeutist feared to risk. At all events, it is rapidly going out of use.

Let Us Be Sensible

There is no occasion to denounce all coal-tar derivatives, esters and other new drugs, just because they have been unwisely used and in excessive dosage. *It* stands to reason that chemistry has much of value to add to our armamentarium. But we have to study these drugs from many angles before we know in just what indications and in what doses to give them. Some of them appear later in modified form, safer and more available, as is about to occur with benzyl benzoate. Our proper province is to avoid the thera*peutic* danger line.

Quinidin is the newest claimant for therapeutic favor, the matter being discussed editorially in the February issue of this journal. Now comes an article by Jackson, Friedlander and Lawrence, in the March issue of the *Journal of Laboratory and Clinical Medicine,* and in which they claim there is nothing unique in the action of this drug in auricular fibrillation, several other drugs acting similarly by virtue of their depressant action on the cardiac muscle; and again the question of toxicity comes up and warnings are issued.

Another Instance

Ségard is out with still another warning against heeding an epinephrin addiction in the treatment of asthma, for the imbalance is so variable in asthma, *the* balance between the vagus and the sympathetic so unstable, that, added to other factors, and frequent toxic state, we must needs be careful avoid any form of heavy dosing, more especially made necessary by continued usage and a tance being established.

Neo-arsphenamin

Both and others are complaining that neo-arsphenadeteriorates and often becomes dangerous to life. fact, there have been several deaths reported from cause. It is now urged that all preparations be *in* refrigeration, such as is required for vaccines. e dosage is, usually, 200 mg. per kilogram, and endency is to give repeated doses, some clinithink we are overdosing with the modern arsenwhether deteriorated or not. We have our own about that, as was expressed in an editorial on in the June issue.

Let Us Slow Down

a favorite indoor sport to denounce our erststandard galenicals—the standbys of practice years ago. We were in practice then and re- some overdosing, notably with pilocarpine; ely did we have the serious results from over- that are so common with the newer drugs. handling very potent agents now; sometimes, k, most too potent—for harm as well as good. uld avoid the therapeutic danger line at all t was one of the aphorisms of Hippocrates to arm with our remedies and treatments. He in many ways. Let us emulate his example.

T. S. P.

What Is Acute Indigestion

and

What Shall We Do for It?

IN THE HURRY of a busy practice it is easy to class many minor indigestions as "acute indigestion," give a hypodermic of morphine and rush off, returning next day to find the patient either quite ill or unnecessarily narcotized. Such tactics are poor policy. A genuine attack of acute indigestion is a serious matter that frequently leads to a fatal issue, while in minor indigestions morphine is about the worst possible drug to administer.

Kemp said: "By many physicians the term 'acute indigestion' is made applicable to, or synonymous with, certain forms of gastralgia, toxic gastritis, acute atony, acute dilatation of the stomach, or, lastly, acute ectasia." Morse, who favors accuracy, stresses ectasia (acute dilatation) as the form of acute gastritis to which the term "acute indigestion" should be applied. Bassler, who runs strong on pathology, divides and subdivides the various forms of acute gastritis. He evidently does not like so nebulous a term as "acute indigestion" and proceeds to outline several conditions so-called by hasty clinicians.

Personally, from considerable study of the condition, and from "inside information" in our own person, we agree with Morse and lay emphasis on ectasia. Certainly all physicians see a class of cases that are of severe type, come on suddenly, reveal by percussion an acute dilatation of the stomach, and that may be readily enough mistaken for angina pectoris, perforation, intestinal obstruction, or peritonitis. While there is not the extreme prostration and collapse noted in ptomaine poisoning, there is a degree of shock, extreme pain, vomiting as a rule, tachycardia, subnormal temperature, low blood-pressure, intense thirst and an entire absence of muscular rigidity.

When Called to a Case

Doctor, when you are called to a case of what appears to be acute indigestion, don't make too hasty a diagnosis or immediately mask the symptoms with morphine. This drug may be indicated; if it is indicated, give it, but not until after a diagnosis has been made and, if a true acute indigestion, not until after the stomach has been evacuated and an enema has been administered.

Please bear in mind that we are not here considering ptomaine poisoning, the forms of acute gastritis occurring in acute fevers or infectious diseases, the heart-liver-kidney symptom-complex kind, those due to abdominal trauma, or even ordinary, every-day indigestion due to flouting the "do nots" of ordinary prudence; but these remarks bear wholly on the kind of acute indigestion or gastric ectasia defined

by Morse. Certainly excesses in diet or drink, or both, are responsible for many cases, in fact for most of them; but an acute gastric ectasia is a far more serious matter than is the ordinary indigestion so frequently called "acute indigestion."

Be Prompt

Morse says: "Unless recognized early, these cases are bad, and present a formidable condition, the death rate being very high. Our present knowledge of the proper method of treatment should greatly reduce the mortality."

Shattuck has given the principles of treatment very clearly, as follows: 1, removal of cause of symptoms; 2, rest and warmth for the patient; 3, rest for the digestive tract; 4, symptomatic treatment.

Immediate evacuation of the stomach by a mustard emetic or, preferably, by lavage, washing out with sodium bicarbonate solution, is the first thing to do. Do not give depressing emetics. It is the worst of policy to tie up the system with morphine, allowing the slow method of intestinal elimination of the offending matter to endanger the life of the patient. If there is abdominal distention, which is common, give an enema.

Now, having done these things, the patient will be weak, but not in such extreme pain. The second indication must now be met by covering him warmly in bed, freely using the hot-water bags, and, if he still suffers appreciably, giving one hypodermic dose of morphine. The morphine may help to overcome shock. Physicians should remember that shock is not solely a surgical matter, as a real shock is more common than is commonly thought to be the case in many non-surgical conditions. It is a wretched thing to do to rush right off from a case of acute indigestion and allow the patient to suffer hours from shock, when the *proper* use of strychnine, camphor, ether, whisky or other drug may be imperatively necessary.

Don't give purgatives at once; wait a few hours, when calomel, followed by salines, is indicated.

Rest for the digestive tract must not be omitted. Sometimes even water gives distress. Give ice. Sometimes one-drop doses of tincture iodine are useful, but the extreme thirst and exhaustion are best met by enemas of hot saline solution, or by hypodermoclysis. Symptomatic treatment must not be overdone. Don't give a lot of bulky messes to these patients. The so-called digestants will do no good. Give little medicine, but do not allow a diarrhœa to exhaust the patient. The principal thing is proper dieting.

A Serious Matter

Let emphasis be placed on two facts: First, most cases of so-called acute indigestion are nothing of the sort described here; second, a real cause of acute gastric ectasia is almost as serious an emergency in the medical field as is appendicitis in surgical practice.

Coming

Diphtheria: Control and Prevention—
by Dwight M. Lewis, M.D.
A preventable death not prevented is a stigma on civilization in general and medicine in particular. To correlate internal and prophylactic medicine, to harmonize epidemic experiences and standing facts, read Dr. Lewis's paper. You will find it sensible, instructive and practical.

The Problem of "Nervous Indigestion"—
by Geo. M. Niles, Ph.G., M.D.
The problems of "nervous indigestion" are numerous and difficult, chiefly so because of the organic and neurotic elements combined. Unless the gastro-enterologist supplements his medication with common-sense psychology he is doomed to positive failure. The factors here involved have been happily solved by Dr. Niles in this delightful paper. He truly succeeded, to use his expression, in playing a poor hand remarkably well.

Analgesia and Sleep, Without Narcosis—
by M. R. Dinkelspiel, M.D.
The narcotic and habit-forming properties of opium and its educts have undoubtedly been the primary cause for stimulating investigations in the search for a less objectionable substitute. While many substitutes have been and are being tried out, and each has its individual value, none of them has attained that minimum of risk which is the ultimate goal.

The indomitable spirit of intensive chemical investigation, which has resulted in a rapid succession of comparatively recent therapeutic achievements in the field of syphilis, leprosy, local anesthesia, hookworm infestation, and other conditions, will no doubt do much in the future to meet this and the other problems which still confront our profession.

Varicose Veins—by A. Wiese Hammer, M.D.
The best results from operative measures are to be found in cases in which statis is well marked and the trunks of the veins are prominent.

In deciding for or against operation, the dictum of Mayo is applicable: "An elastic bandage is applied from the foot to above the knee. If this bandage can be worn with comfort, an operation should give relief." Discomfort will show the superficial vessels are necessary to the circulation.

The Diagnosis of Typhoid Fever—
by Bruce Snow, M.D.
The paper of Dr. Snow comprises several interesting features—it reviews typhoid fever vividly; it presents some original angles together with a splendid resumé on the standard laboratory aspects of this undeniably important disease, a disease which, in spite of its constantly reduced prevalence, is still intermittently pandemic, endemic, and epidemic, practically throughout the world.

Can Obstetrical Conditions Be Improved in Rural Communities?—by Mayer Shover, M.D.
The country practitioner is forced by conditions to be a really resourceful obstetrician. In the cities, where hospitals and specialists abound, the general practitioner usually attends so few obstetrical cases that he never becomes really skilled.

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 612

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Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

The Conduct of the Third Stage of Labor

By SAMUEL F. GORDON, M.D.,
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Dangers Third Stage of Labor

"The dangers due to accidents occurring during the interval between the birth of the child and the birth of the after-birth exceed those to which the parturient woman is subjected because of accidents during the rest of labor." This statement deftly summarizes the importance of the subject and should be a warning to those who wade the dangerous streams of obstetrical medicine.—EDITORS.

THE DANGERS DUE to accidents occurring during the interval between the birth of the child and the birth of the after-birth exceed those to which the parturient woman is subjected because of accidents during the rest of labor. The immediate dangers of post-partum hemorrhage are evident to all, but there is also an increased liability to infection when the resistance of the patient has been lowered by excessive bleeding. Toxemia, hemorrhage, and even infection may depend upon the incomplete expulsion of the placenta.

It is my purpose to consider how the third stage of labor may be guided, or aided, should assistance be needed, and to report some abnormalities met during the past three years in private practice.

Mechanism of Placental Separation

It is interesting to note that there has been little real observation of the mechanism of the separation of the after-birth. The mechanisms of Schultze and Duncan described in the text-books are based on the position of the placenta as found in the lower segment of the uterus and when discharged from the vagina. It is taught that the placenta is separated by the repeated contraction and retraction of the uterus, with diminution of the placental site, five to thirty minutes being required for the separation. It may separate at the periphery especially at the lower edge, or at the centre with the formation of a retroplacental clot.

Franz, in 1916, investigated the method of placental separation and expulsion by manual examination of the interior of the uterus immediately after the birth of the child. Our clinical observations support his views, and we believe the Roentgen-ray studies of Weibel and Warnekros support them. Franz found: As a rule, the entire maternal surface of the placenta is separated at the same time by one uterine contraction; birth of the body and extremities by a uterine contraction is accompanied by complete separation of the placenta, otherwise several contractions are necessary; complete separation with formation of a retroplacental clot is the rule; partial separation makes necessary several contractions to complete the detachment; attempts at expression of an incompletely detached placenta increase blood loss, while early expression decreases blood loss when the placenta is completely detached.

Our clinical experience at the Samaritan Hospital, in the service of Dr. J. O. Arnold, with the use of pituitrin administered intramuscularly immediately after the birth of the child's head, corroborates the observations of Franz. Ryder, and more recently Brodhead and Langrock, show the lessened blood loss when pituitrin is used at the beginning of the third stage of labor. The latter mention the occurrence of hour-glass contraction in a number of their cases. This has not been noticed in this clinic since we began giving it intramuscularly before the birth of the body. Attempts to express the placenta before the rise of the uterus indicating the passage of placenta into the lower uterine segment are, we believe, the cause of this anomaly.

The views of Franz have been questioned by Frankl and Hiess, who stress the importance of retroplacental hemorrhage in the separation of the placenta. The reported success of Gabaston's method of causing

artificial detachment of the placenta, would support their contention. Gabaston, in cases of adherent placenta, injects at least five hundred c.c. of salt solution into the umbilical vein. This swells the villi, rupturing some, and causes a retroplacental hydroma. At the Samaritan Hospital we have not found use for this method, and, in the author's cases where manual extraction was necessary, it could not have been employed.

Conduct of the Third Stage

The preparation for the third stage of labor begins at the onset of labor. Indeed, it requires not only that the patient be carried through her labor with greatest conservation of her physical and mental energy, but that she be brought up to her confinement in the best condition possible, so that she will be as fully prepared for the stress and strain she must undergo.

We conduct the third stage of labor in the following manner: As the head of the child is born, 1 c.c. of obstetric pituitrin is injected intramuscularly into the outer side of the thigh. It acts quickly and, after forceps operations, prevents delay in the delivery of the shoulders by overcoming the sluggish condition of the uterine musculature often present when an anesthetic has been used. We also believe that it aids complete separation of the placenta and its rapid expulsion into the lower uterine segment or vagina.

After the child is born, a clean towel is placed beneath the patient. The patient should now be on her back. A sterile basin, pushed against the perineum, collects all the blood lost, and receives the placenta and membranes as they are expelled. An assistant meanwhile has followed the uterus with a hand lightly laid on the fundus.

If there is no hemorrhage, or undue relaxation of the uterus, nothing is done until there is evidence that the placenta has passed into the lower uterine segment. Should the uterus balloon up, gentle rubbing of the uterine body is done, the uterus being held by the hand with the thumb in front and the four fingers behind. It is necessary to warn against rough manipulations of the uterus. Abnormal separation of the placenta, shock and increased bleeding are caused in this way.

Efforts to complete the delivery of the after-birth before it has been expelled from the fundus are avoided. We wait for the rise of the fundus, and note its change in shape from a globular mass to one flattened from front to back, and that it is smaller and harder.

At this time, in normal cases, the woman is asked to bear down. I have found Baer's suggestion to grasp the recti and draw them together during a pain, while the woman bears down, useful at this time. More often the patient, if a primipara, is under the anesthetic. In these cases and where the above method fails, we practice early expression of the placenta. The uterus, for this purpose, must be firmly contracted. It is grasped in the hand with the thumb in front and the fingers behind, without squeezing, and is pressed down in the direction of the birth canal. The fundus is used only to press against the placenta lying in the lower uterus and vagina.

As the placenta emerges from the vagina it is allowed to drop into the basin, dragging the membranes after it. If there is any adhesion of the membranes they are grasped close to the vulva with a hemostat and removed as carefully as possible.

Ergot is now given in 1 c.c.. dose of a sterile solution, by intramascular injection.

Unless the woman bleeds there is no danger in leaving the secundines in the uterus for a day or more. This is rarely practicable, and, in the patient's home, dangerous without constant attendance. Our practice is to try simple expression several times, during an hour or more, before attempting a Crede, which differs from a simple expression in that the uterus is squeezed forcibly by the hand as it is pushed in the direction of the inlet. Our experience is that attempts to do a Crede without anesthesia sometimes cause great shock to the patient, and when done to stop bleeding, due to a partially detached placenta, often increases the hemorrhage.

If there is excessive bleeding and the placenta is not readily expelled there should be no hesitation in entering the uterus with the hand and manually removing the placenta. The author in his work keeps ready additional sterile gloves to be used for this purpose should it become necessary.

One should be familiar with the various anomalies of the placenta and the methods of examining that organ for defects. *Now* is the time best suited to remove any fragment of placenta that may be retained.

Abnormalities in the Delivery of the Placenta

Abnormalities in the separation of the placenta may be due to faulty uterine contractions, either natural or due to the accoucher's manipulations. Incarceration behind an abnormal contraction ring, or behind a prematurely closed cervix are examples of this. Inflammatory changes in the decidua may cause adhesion of placenta or membranes. Penetration of the deeper uterine wall by placental or chorionic villi; abnormalities of the uterine wall, such as fibroids; peculiarities of placental formation and implanation, such as placenta circumvallata and membranacea; and accessory placentae are among the causes of abnormalities in the delivery of the secundines. It must be remembered that true adhesion is rare. The placenta that is slow in being delivered is usually merely retained in the lower uterine segment.

(*Continued on page 584*)

Medical Diathermy in Joint and Bone Lesions

By Elnora Cuddeback Folkmar, M.D., M.Ph., D.S.S.,
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External Heat as a Therapeutic Agent

The importance of using heat as a therapeutic agent has been recognized for centuries. Various methods, local and general, of increasing bodily heat have been devised, from counter irritants, hot poultices, hot-water bottles, hot baths of the home; to fomentations, hot packs, hot-air bake ovens, tango mud and hot-spring baths of sanitoria and health resorts. None of these convective methods induce heat deep within the tissues. They are successful only in so far as they produced by reflex action an indirect slight dilation of blood vessels and an increased metabolism.

IN ALL CASES of disease or injury of a joint various pathological changes, more or less permanent, may take place. Among these are trauma of the soft tissues about the joint; engorgement of surrounding and intracapsular tissues with exudates; obliteration or narrowing of capillaries, resulting in more or less circulatory stasis and impaired nutrition; changes in quality and character of the synovial fluid; roughening or hardening of articular surfaces; formation of adhesions between tendons and their sheaths; deposits of calcarious material in joint cavities or in the extra or infra-capsular tissues, ligaments or tendons, and accompanied in chronic cases with more or less ankylosis, fibrous or bony.

Nature's Therapeutic Process

Nature's cardinal method of therapeusis, when a joint is injured by trauma, or invaded by pathogenic bacteria or toxins, is to produce inflammation. The one ever present symptom of inflammation is heat. This heat is produced by hyperaemia, by which the joint is warmed, better nourished, and all metabolic processes increased. The tissues are softened and waste materials and exudates, due to the presence of irritants—mechanical, chemical, thermic, or bacterial—are absorbed or eliminated.

If nature succeeds the joint is restored to normal physiological function. But nature often fails in this task of restoration; sometimes because the task set before her is too great; sometimes because of obstacles placed in her way by well meaning doctors and surgeons in the form of cold compresses and unyielding casts, which hinder the normal physiological processes, be these those of elimination of toxins, of repair of a trauma, or repulsion of an invasion of bacteria.

Induced Internal Heat in Therapeusis

The primary indicated treatment in joint lesions deduced from nature's processes is the production of heat within the joint and the surrounding tissues. This can be accomplished only by the use of diathermy.

Physiologically, diathermy in its therapeutic effects is identical with local heat. Nature always generates heat when she undertakes a task of restoration. Heat relaxes tonus. By relaxation of the muscular fibres of blood and lymph vessels, she dilates them. Blood and lymph from the surrounding tissues rush in and fill the dilated vessels. The chemical processes of metabolism are quickened. Waste and toxic substances are more rapidly eliminated. Heat softens the tissues and makes them susceptible to mechanical treatment, or to voluntary exercise. Heat relieves pain and tenderness by relieving the pressure from exudates.

Diathermy in the treatment of acute joint lesions, especially those of trauma, is a means of reinforcing and speeding up of nature's restorative processes. In the treatment of chronic joint lesions diathermy is a means of stimulating nature to initiative restorative processes, and of abetting her in the continuation of these processes to a successful conclusion.

Massage an Adjunct

In the treatment of joints, the diathermic treatment should be followed by deep massage of the tissues and exercise of the muscles. This may be accomplished by the static wave current, by the rhythmic faradic current, by the sinusoidal current, by mechanical vibration, by hand massage, and by passive and active exercise.

Personally, in the treatment of sprains, fractures, and chronic stiff joints, I follow the diathermic treatment with a faradic rhythmic massage for five to ten minutes, and then give what I call "the faradic grip." This consists in slowly moving the secondary coil over the primary until the patient gives an involuntary sound. This is repeated five or six times. This mechanical massage is followed by passive and active attempts at motion.

In some cases it is well to precede the diathermic treatment with radiant heat. During this time a salicylate preparation may be rubbed into the skin.

In other cases diathermy may be followed by the constant galvanic current or by galvanic ionization of sodium chloride, of a salicylate, or of an iodide.

Economic Value of Diathermy

In the treatment of joint and bone lesions from trauma, the patient demands relief from pain, and the restoration of anatomic integrity and physiologic function with the least permanent impairment in the shortest possible period of time. In the industrial world, the employers are responsible for injuries incurred by the employees in the line of duty. The employer's loss is lessened by reducing (a) the time of total incapacity, and (b) the amount of permanent damage and partial incapacity of the injured employee. To accomplish these ends a number of large industrial concerns have installed in their welfare department equipment for giving diathermy treatments.

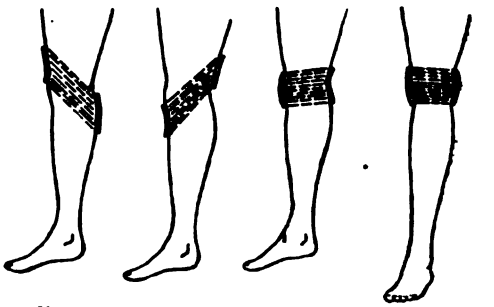
By the use of diathermy in joint lesions, the time ordinarily required for regeneration of injured parts and their restoration to normal function can be reduced from 30 per cent. to 70 per cent. Moreover, the likelihood of permanent disability is decreased still more.

I can best make clear what may be accomplished by diathermy in the treatment of joint and bone lesions by citing a few case histories.

Group One—Rigid Knee

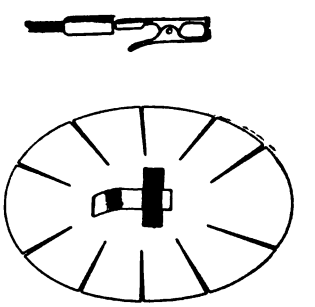
Case I.—Rigid fibrous ankylosis of right knee as sequelae of acute articular rheumatism. A woman about 57 years of age was referred to me in 1916 through Dr. E. G. Mitchell. Twenty-one years before she recovered from an attack of articular rheumatism with the right knee contracted at right angles. She was then taken to a hospital, where the knee was straightened and placed in a plaster cast by a surgeon. When the cast was removed there was a rigid knee joint, which no amount of massage or osteopathic treatment had been able to limber up. For 21 years she had walked swinging the right leg stiff from the hip. Diathermic treatments, 40 minutes of 500 to 1000 milliamperes, followed by five minutes of faradic rhythmic massage and five minutes effort at passive and active motion, were given almost daily. No perceptible change was observed until the fifth treatment, when the knee flexed so that the ball of the foot was brought to the floor. By the tenth treatment the patient could go up and down stairs with right foot leading, and when seated could draw foot back and kick her chair. Sixteen treatments were given during a period of three weeks, when patient returned to her home in Pennsylvania with a very usable knee that could be moved through an arc of 120 degrees.

Case II.—Rigid knee as sequelae of fixation for fracture of hip. Woman of 60. Patient fell in September, 1921, and fractured the right hip. Fixation by traction was maintained for several weeks. Result, an enlarged rigid knee, that no amount of massage, or effort at either passive or active motion, was able to bend in the slightest degree. Patient walked with crutches. Came to me May 22, 1922. Up to time of writing this report the patient has had nine treatments—diathermy followed by faradic rhythmic massage, and effort at both passive and active motion. The electrodes were placed on the anterior and posterior surfaces of the knees, and on alternate days on the lateral surfaces. This cross fire method more completely heats all parts of the joint. She can now bend the knee to an angle of fifty degrees.



These diagrams show various positions for placing electrode when treating a joint. The broken lines show the direction of current passing from one electrode to the other. The space between the edges of the electrodes must always be greater than the shortest distance between the center of the electrodes. Cross fire treatment consists in changing the positions of the electrodes on different days of treatment.

It is well to have an x-ray made of a rigid knee to determine if destruction of the inter-articular cartilages or bony ankylosis has taken place. Diathermy is of no avail in bony ankylosis, such as is often found as sequelae of gonorrheal infection.



Clip for fastening cord to electrode.
Electrode cut from tin foil. Slits cut in from edge permit of fitting electrode to uneven surfaces. The narrow strip of tin foil fastened by adhesive tape to center of electrode is for attachment of clip.

Group Two—Sprain of Ankle

Case I.—Referred to me by Dr. Davenport White. A woman about 60 in evading an automobile sustained a severe sprain of ankle and foot. She was brought to my office about three hours after the accident. She was unable to bear her weight upon the foot which was much swollen and very painful. Diathermy was applied for 30 minutes 500 to 700 milliamperes. This was followed by 10 minutes of rhythmic faradic massage. After this an adhesive boot was applied. Result, patient was able to walk out to car with little pain. The swelling was some reduced. Five treatments were given during a period of 10 days. The milliamperage was increased to 900 with the second treatment. After the fourth treatment the adhesive support was not re-

placed. Nearly all discoloration, which was very deep, disappeared after the third treatment. The five treatments gave nearly complete restoration of physiological function Patient was able to go shopping without experiencing any inconvenience from the sprained ankle.



Diathermy in the treatment of joints.
Electrodes are fastened in place by means of a roller bandage.

Case II.—Also referred by Dr. Davenport White. Laborer on a railroad, 20 years old, who had sustained a severe sprain of an ankle. Dr. White told the boy that he would be able to return to work in three weeks if he had diathemy treatments. The young man was brought to my office the next day. He wore a large shoe and experienced excruciating pain with every step. A diathemy treatment of 40 minutes, ranging from 500 to 900 milliamperes was given. This was followed with ten minutes of faradic rhythmic massage and the faradic grip. After this an adhesive support was applied. The swelling was much reduced and the young man walked out of the office without pain. The next day he returned wearing an ordinary shoe, the mate to the one on the other foot. He limped a little and had slight pain on taking a step. The treatment of the day before was repeated and I told the youth that he would be able to return to work in a week. He had his last treatment six days after the accident, when I returned the case to Dr. White with the message that I thought the young man able to go back to work.

Fractures—Repair by Nature

In a simple fracture not only is the bone broken, but its medullary contents are lacerated, the periosteum is more or less stripped from each fragment, and the overlying soft tissues are more or less contused. A considerable amount of blood is effused and soon forms a clot between the ends of the fragments, under the separated periosteum and in the contused soft tissues.

Nature begins her repair work by producing inflammation in the injured parts. By this process leukocytes are stimulated to migrate to the seat of inflammation and eat up the clot. The cells of the connective tissues begin to proliferate, and blood vessels are developed in this new tissue which replaces the blood clot. The osteoblasts begin to proliferate and permeate the mass of fibroblasts, and form the callus which unites the ends of the fractured bone. The usual surgical procedure is to secure coaptation and fixation of lacerated ends and leave the rest to nature.



Patient at the right hand is receiving a diathermic treatment through arch of foot. The foot rests on a piece of tin foil about the size of the sole of the foot. This electrode is connected to one side of the d'Arsonval machine at the left of the patient. The tin foil electrode rests on a paper napkin spread over a sand bag. The sand bag permits a perfect adjustment to the sole of the foot.

On dorsum of the foot is a tin foil electrode which is connected to the other side of the d'Arsonval machine. (See next cut how the electrode on dorsum of foot is held in place.)

At the left hand of above cut is shown one method of giving a modified diathermic treatment. One pole of the d'Arsonval apparatus is connected to the back of the condenser chair. To the other pole is attached a non-vacuum, or condenser electrode, which is held by the nurse. This gives great density of current near surface under the condenser electrode, which can be easily moved over the area affected.

Diathermy in Fractures

Diathermy in fracture cases will produce hyperaemia. This will increase leukocytosis, cell proliferation, granulation, callus formation. Diathermy will reduce the oedema, promote absorption of ecchymosis, relieve pain. Diathermy in the most favorable cases

speeds up nature's processes. In those cases where nature's processes are slow or ineffective, diathermy will produce conditions that favor union.



On the right is shown how the electrode on dorsum of foot is held in place by small bags partially filled with sand. On the left is shown one method of giving diathermy in treating dental conditions. One side of the d'Arsonval apparatus is connected to the back of the condenser chair. To the other side of the apparatus is connected a small ohmless electrode, which is moistened and held firmly against the jaw.

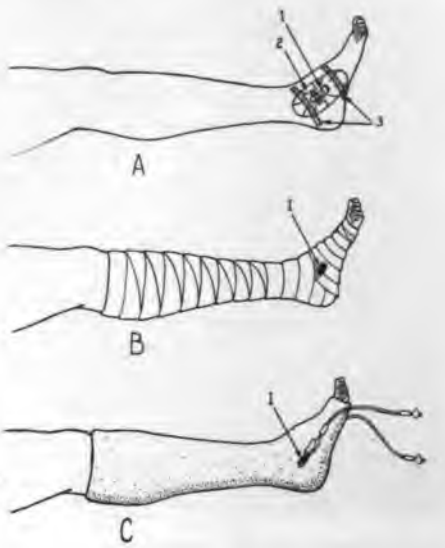
The author, in treating certain chest and abdominal conditions straps a large piece of tin foil, about 4x6 or 5x8, over the chest or abdomen. Strips cut from inner tubing are used for making belts for strapping electrodes in place. The electrode is connected to one side of the d'Arsonval apparatus, and the other side of the apparatus is connected to the condenser chair.

In cases of complicated fracture—cases where there may be more or less infection, where the blood stream is more or less impoverished, diathermy is especially valuable. Dr. A. B. Hirsh in the *American Journal of Electrotherapeutics and Radiology* for September, 1921, reports a number of cases with roentenograms in which diathermy was used. These cases were those of delayed union, bone graft, non-union, cases complicated with osteomyelitis. He concludes from the results secured that diathermy does cause "more or less increase in bone deposit in cases of delayed union, bone graft; removal of osteomyelitis, where present; cessation of infection, and closure of the cavity by granulation."

Placing the Electrodes

In the case of simple fracture of the bones of the ankle and foot cited in the June instalment of the article on "Medical Diathermy," the electrodes were placed as shown in the following figures before applying the plaster cases:

If a gypsum cast has been applied before the case is referred for diathermy, the electrodes may be placed as cuffs about the fractured limb, one above, and the other below the cast. In one case of fracture of the coronoid process at the elbow, one electrode was slipped under the cast next to the palm of the hand, while the other was applied over the deltoid muscle at the shoulder.



A The electrode is applied (2) directly upon the skin and held in place by two strips of adhesive plaster (3).

B The foot and leg are wrapped with a canton flannel bandage, care being taken to let the strip of tin (1) (See cut A) protrude between the windings of the bandage.

C The gypsum cast applied over the bandage. Clips and conducting cords are attached to the protruding tin strips. The other ends of the cords are attached to the outlets of the diathermy machine.

In a case of fracture of the rib it was possible to place one electrode above the adhesive support, covering posteriorly the fracture, and another on the anterior surface of the body below the adhesive support.

Diathermy for Use of General Practitioner

Stimulated by results secured in the department of physico-therapy in base hospitals during the war, many orthopedists are now using diathermy in the treatment of lesions of bones and joints. Diathermy is an agent that can be employed in the office of the general practitioner. The day is past when a surgeon can dismiss a case of fracture of the hip with a stiff knee following fixation, or when an internist can dismiss a case of articular rheumatism with a joint contracture without censure. It is just as im-

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Some Interesting Surgical Cases

By Irvin Hardy, M.D.,
Morgantown, W. Va.

Dr. Hardy presents a series of highly interesting cases, which incidentally illustrate some of the "shocking" circumstances under which some of our surgeons are called upon to operate. It also demonstrates the daring, and adaptation, and efficiency and excellent results our surgical colleagues are securing among trying environments in the scattered portions of our vast country.—Editors.

An Ectopic Gestation

Case 1.—Was called one rainy night, at 10 P. M., to see a woman, eighteen miles distant, in the mountains. Took two nurses and started for my destination.

Owing to the fact that the driver of the Universal car did not know enough to keep water in the radiator, we had to get out and push up steep grades. When within a couple of miles of my destination I slipped off a rock (while pushing) and fell into a mud hole. This was the proverbial last straw, and the vocabulary utilized, in the following few minutes, is not to be printed.

Arrived just at peep of dawn, and found Mrs. B., aged twenty-eight, mother of two children, unconscious. Color of face, ears and lips indicated severe loss of blood. Diagnosis of ruptured ectopic pregnancy made. Operated in an improvised operating room, after giving a gloomy prognosis. Found the foetal mass, large as a baseball, free in the peritoneal cavity. There was so much blood in the abdomen that it ran over the table onto the floor when the abdomen was opened. Removed both tubes, because it has been observed that the other tube, if not removed, would be likely to give the same trouble. Left a good nurse with her, and had her given proctoclysis for three days, and she recovered nicely.

It is my opinion that tubal pregnancy occurs very much more frequently than is generally believed, and that nature takes care of the woman in many cases, and the surgeon dose not see the case. This case also emphasizes the fact that a patient who is very ill from loss of blood may not be so bad a surgical risk. A patient as ill as this one, and whose condition was due to shock, instead of hemorrhage, would most likely die.

A Cystolith

Case 2.—Mrs. X. came to the hospital for the operative removal of a stone from the urinary bladder, the family physician having previously made the diagnosis, by the use of the sound, and by palpation through the vagina.

She had been troubled by this condition for several years. More or less cystitis was kept up, and the stone was so large she said she could feel it flop over when she would turn over in bed. The stone was removed by a supra-pubic incision, and measured an inch in diameter, was circular in shape and was quite heavy.

This case is cited because of the comparative rarity of stone in the female bladder, and to remind us that an enlarged prostate is not the only cause of a stone in the bladder.

A Teratoma

Case 3.—Miss C. was brought to the hospital with a diagnosis of acute appendicitis, of the ruptured type, with peritonitis.

She had more or less rigidity of the abdominal muscles, but the pulse and temperature did not indicate peritonitis. However, the case was one of acute abdominal trouble, and evidently a surgical case. The point of maximum tenderness was on the right side of the abdomen, at about McBurney's point.

Upon opening the abdomen, a large amount of creamy fluid escaped, and ran off the operating table upon the floor, where it immediately congealed. This lead me to suspect a dermoid cyst, which was found to have originated in the left ovary and proved to be a teratoma. It had evidently been quite large, judging from the amount of fluid that escaped at the time of rupture. Lying in the sac of the ovarian cyst was found a half of an inferior maxillary bone, which contained several well-developed teeth, also a ball of hair about the size of a baseball, which looked as though it had been wrapped by hand. The hair corresponded with the color of the patient's hair.

The foetal inclusion theory of Cohnheim seems the best, as to the origin of these cysts; and this case is reported to emphasize the importance of operation, in acute abdominal troubles. Also, in my practice, this type of ovarian cyst has been very uncommon.

The Efficiency of the Fowler and Murphy Treatment

Case 4.—Was called to see a young woman, single, age twenty-two, who lived about fourteen miles out

in the country. Found her unconscious, temperature 104, pulse very rapid. Diagnosis of ruptured appendix, with peritonitis, was made.

By this time the light of day had gone and the patient was in a room having an open fireplace. We had perhaps two or three drams of chloroform, but plenty of ether. Oil lamps and lanterns were the source of light by which to operate. The chloroform was soon exhausted, and ether given within three feet of an oil lamp held in the hands of a farmer neighbor.

An incision was made in the appendicial region, drainage tube inserted, patient put to bed in the Fowler position, and Murphy's solution given by a nurse who knew how. The patient recovered, and a few months later came to the hospital, and I then removed her appendix.

The Fowler and Murphy treatment were responsible for this girl's recovery. A few individuals, who had not "the nerve" to say so while Murphy lived, are now doubting the efficacy of Murphy's Proctoclysis. One might say like in the Dakin-Carrell treatment, "It is ninety per cent. technique," but we do not wish to use such a statement. One who fails to see the benefits of Murphy's solution, in pus peritoneal cases, either does not have it properly given, or there is a decided pathological condition of his perceptive apparatus.

Had Murphy done nothing else, besides giving to the profession this one boon, he would have done more than any other one surgeon in the last century.

The Nephrolith—A Plea for Conservative Surgery

CASE 5.—Mrs. E., aged forty-three, multipara. Had been in poor health for two years. Anaemic, general condition bad. Came to hospital for diagnosis and treatment. Examination showed quite an enlargement of left kidney with a large stone present. Incision was made along the quadratus lumborum muscle, and the kidney delivered. The kidney was incised and about half a pint of pus released. The stone was removed through an incision in the pelvis, after which the pelvis was sutured. A rubber drainage tube was put into the kidney, and secured by a stitch of number one plain catgut.

This drain was removed in ten days, and in three weeks the patient left the hospital in good condition, and has enjoyed good health for five years since operation.

A great deal of the kidney was destroyed by the suppurative process, but I am sure that the healthy part of that kidney is doing good work, and is a very valuable asset to the owner.

This is a plea for conservative work on the kidney. I am of the opinion that many useful kidneys are sacrificed, that the surgeon may point with pride to his living nephrectomy case.

Cases with multiple stones may be treated by drainage and removal of the stones, and later the kidney may be removed if it is found necessary.

Serious Injury, Prompt Surgery and Skin Grafts

CASE 6.—Mary O., age five years, was struck by a large touring automobile and dragged for a distance of fifty yards over a brick road. Most of the skin and fascia had been ground off the right abdomen, and downward on the thigh. Scarpa's triangle and its contents were exposed. The anterior superior spine of the right ilium and some more of the hip bone had been ground off by contact with the brick roadway.

She was brought to the hospital as soon as possible, and was found severely shocked. Treatment for shock was instituted, and in the meantime the urinary bladder was catheterized, with the result that three or more ounces of urine, free from blood, were drawn off. Shock had somewhat subsided, and I quickly opened the abdomen on the left side and found no injury to the viscera, no blood or feces present. We lost only twelve minutes by this procedure, and we learned that she had a good chance for recovery.

Had there been an intestinal rupture, and had we waited until a diagnosis could have been made from the symptoms, we would have lost our patient.

We used skin grafts on the abdomen, which were furnished by her mother and which were rather disappointing. I have found autogenous grafts to be far superior to homogenous.

The case is reported chiefly to illustrate that we must have the courage to carry out our convictions. The age of this patient and the serious nature of her injuries made it a case to cause one to think promptly and act quickly.

Smithsonian Institution to House Public Health Exhibit

The National Committee on Exhibits Showing Advances in Sanitary Science has recently been formed in Washington, D. C., for the purpose of collecting and preparing material for a great popular public health exhibit in the Capital. The members of the committee include:

Surgeon General H. S. Cumming, U. S. Public Health Service, Chairman.
Dr. D. B. Armstrong, National Health Council.
Miss Mabel T. Boardman, American Red Cross.
Surgeon General M. W. Ireland, U. S. Army Medical Corps.
Dr. Victor C. Vaughan, National Research Council.
Dr. C. D. Walcott, Smithsonian Institution.
James A. Tobey, National Health Council, Secretary.

Space for the proposed exhibit has been placed at the disposal of the Committee by the Smithsonian Institution, which is visited by more than half a million persons annually. Plans are under way to install exhibit material secured from official and voluntary health agencies. The secretary's office is in the National Headquarters of the American Red Cross at Washington, D. C.

Rheumatism and Arthritic Conditions

AND

An Effective Remedy

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Rheumatism, a loose term, with a painful pathology and empiric treatment, is a reminiscence of ancient medicine which so far has successfully resisted scientific analysis. Dr. Ott believes that he has established the etiology and found a specific for this class of morbidities. If so, this paper carries a message of hope to the medical profession and suffering patients.—EDITORS.

IN MY MANY YEARS of obervation of the so-called rheumatic afflictions of joints producing nodes, distortions, inflammation, ankylosis and destruction of elements comprising normal supple articulations, I have been trying to ascertain the pathologic causes and find a means of prevention and a curative remedy. In our biological analysis we find many theoretical causes, both in literature and bedside study, so that there is ground for concluding that the essential entity has not yet been discovered; or there may be a combination of the multiple implied causes which will require further examination and study.

The etiological factor has been elaborated by numerous pathologists, giving many elements as the source of the most common joint afflictions; the bacteriological, the neurotrophic, the uric acid predominancy, staphylococcus pyogenes and the diplococcus, the microbes arising from foci of infection, especially such as decaying teeth, diseased tonsils, chronic middle ear and gall bladder infection and other autointoxications arising from the perversions of the alimentary canal.

I firmly believe in the infectious origin favored and invited by the minor traumatisms producing a low grade of irritation which renders the part a favorable nidus for location and destruction.

I base my belief on the following premises: The small phalangeal joints, especially the distal ones—as the index fingers in particular, are above all other parts of the body exposed to traumatism, as in those articulations is found in most cases the primal and most frequent involvement of the articulations in the human body.

Traumatism

The word traumatism as applied above needs more explicit definition: The first and second phalangeal joints are in our daily occupations either in sports or labor subject to knocks, superflexion or extension, lateral stretching, concussions, twists and strains which pass unnoticed by the individual because of the minimum soreness—a low grade irritation—and foci of infection resulting from the blood, the circulatory medium, find an inviting area of lodgment and harm; once established as the source of infection and not removed, a process of insidious disintegration follows. The index fingers have the greatest flexibility for their manifold uses and therefore increasingly subject to the slight trauma, seemingly insignificant at the time, in middle life and beyond, having, according to my observations the initial ossific developments and these fingers involved are always affected with larger nodes and are invariably a part of the phalangeal joint affliction. When the index finger articulations are not involved one will find but a minor thickening in the other fingers, and often no involvement at all.

Index of Duration and Extension

The degrees of involvement of the distal forefinger phalangeal joints is my index as to the duration and extension of the disease. As the big toe-joint is the point of election of gout, so the index finger is the point of election of microbic arthritis; although many pathologists class the two diseases as having the same origin, I find the distal joints first attacked and subsequently the larger joints, especially the knees. The larger joints are the first to show improvement, under medicinal and dietary treatment. The middle life or beyond this period is the favorable age for the development of nodulary arthritis. I seldom see cases in the adolescent or young adult for whom acute articular rheumatism shows a predilection. Congenital lues is to be considered where the articular inflammation has not the classical associated symptoms. I do not recall a case of ever finding a patient with arthritis deformans suffering with pulmonary tuberculosis. This is merely a clinical experience. Also in arthritis deformans there is a marked symmetry of joints involved, usually more applicable to the smaller

joints. The diagnosis is readily made when the disease is advanced, but as its inception is insidious a positive diagnosis is more easily made when crepitation, enlargement, pigmentation and glossiness of the skin are evident.

Its steady progress is sometimes interrupted by a quiescent stage without any ascertainable cause. No two cases are alike and each one must be studied with care as to treatment which I will outline in a general way, having the physician in charge select such as required for the individual case. The vast majority of neuralgias, neuritis, myositis are caused by toxins and morbid states of the blood found in the constitutions known as gouty.

Treatment

In the *Medical World,* January, 1911, and the *New York Medical Journal,* January 13, 1912, I called the attention of the profession to the exceptional value of the diacetyl derivative of methylene disalicylic acid as being an unquestionable reagent especially destructive to the gouty or rheumatic poisoning—whether of a uratic entity or bacterial toxin. That the joints of children attacked by rheumatic inflammation recover entirely, ***but the crippled heart never.*** That the consensus of medical writers was to the effect that salicylate of sodium and other salicylates and iodides did not influence the duration of the disease; with the quotation from the work of one universally recognized authority—Osler's *Practice,* page 277:

"Salicyl compounds, which were regarded so long as specific in the disease, are now known to act chiefly by relieving pain. R. P. Howard's elaborate analysis shows that they do not influence the duration of the disease."

In evidence that it is not the pain relieving or analgetic properties of the acyl-derivative of methylene disalicylic acid that causes the rapid subsidence of the *swelling* and fever and the consequent abatement of the pain, but that the duration of the attack of acute inflammatory rheumatism could be curtailed, and that the recovery would not have occurred just as promptly without medical aid, I submitted in evidence the clinical reports of three cases of most positive history of joint rheumatism from past generations. During every year of the previous ten, they had been most persistently subjected to severe recurrent attacks of articular rheumatism in the acute form, averaging a duration of four weeks and an interval of recurrence of every three or four months. The effects of those repeated attacks upon the finger joints of those patients were also mentioned in detail. One of those patients has since died from causes of altogether different nature. *The other two have not had one recurrent attack during the past ten years.* They did have the suggestion of an approaching attack, but the prompt use of acyl-methylene-disalicylic acid prevented any recurrence.

It is the importance of this fact in so pronouncedly increasing the interval between attacks that proves the reliability of my statement that it is in the chemical composition of this acyl-methylene-disalicylic acid compound we have a veritable reagent especially destructive to the rheumatic poison.

Demonstrative Cases

In demonstration I showed the history of three unique cases, of which I now report one of them:

Man, now aged 44 years, having a history of three generations of joint rheumatism. A valvular lesion existing. On extending the hands the fingers presented a concave dorsal surface, indicating destructive absorption of some of the cartilages from repeated attacks during the ten-year period of recurrent attacks. He then had been confined to bed for six weeks with both knees swollen, quite red and very painful. He had been given the usual remedies of salicylates, iodides, etc., but without benefit. On change of physicians he was given 30 grains of the acyl-methylene-disalicylic acid every hour for the first four doses, and the next day the doses were every two hours apart. The pain disappeared—except some caused by movement—and the redness and swelling had all gone by the following night. On the next succeeding day he was up and dressed. He was instructed to continue its use in doses of 30 grains five times daily for two months to loosen up his stiffened condition from frequent repeated attacks during the ten-year period. There was no influence on the heart murmur or heart action. A looseness of the bowels caused the use of 20 grains of subgallate of bismuth to be administered every three hours for a few days until the system established the toleration of the aforementioned derivative of salicylic acid, which he was then taking without annoyance.

The case illustrated with the three photographs of the hands was that of: Man, aged 69 years. For forty years the joints of his fingers and toes gradually became more stiff and painful. Not by a direct continuation in the increasing of the size and painful movements, but through recurrent attacks usually



Fig. 1.—Showing hands before treatment.

lasting from eight to ten days, that became more frequent and protracted. In July, 1910, he suffered the most severe and prolonged attack of any that he

had ever had, which placed him in bed helpless. His finger joints and wrists were swollen to over double their normal size. Pain stopped mobility. His then attending physician gave him frequent hypodermic injections of morphine and sodium salicylate to the full extent of toleration. Whilst in this distressing condition and before any abatement had become manifest, through a change in physicians, he was then given 20-grain doses four times daily of acyl-methylene-disalicylic acid. The next day the swelling was reduced and the pain was much less, with no desire for the use of the morphia. On the fifth day of this treatment he had recovered from this attack. He then stated that he felt some improvement in the mobility of his stiffened joints and was in general more easy. He continued the use of the remedy. In three weeks he noticed that the enlargement of the finger and toe joints, that had been growing worse



Fig. 2.—Showing hands during treatment.

for two decades, showed signs of reduction, with an increase in their flexibility. He persisted in the use of that compound derivative of salicylic acid for one year, averaging about 90 grains per day. He is now in better health, without one recurrent attack since, and much more free of rheumatism than at any time in the ten years prior to his use of that chemical reagent. He is now working at his occupation as a jeweler, in which he had gradually become fully incapacitated. The photographs of his two hands show the joints fairly restored to normal size. The carpal and metacarpal joints had been for a long time considerably increased in size. There are still some effects of disfigurement of the first fingers from the thickening of the capsule of the joints and the adhesions formed between them and the ligaments and other surrounding structures. Now there is movement in every joint, without crepitus, thus manifesting a thickening of the capsules of the joints without any destruction of the articular cartilages. This important diagnostic distinction of true rheumatic arthritis is made clear by the use of this chemical reagent just referred to, and serves to distinguish from that other condition where the articular cartilages have been destroyed beyond repair and callus material thrown out to produce further deformity, where there is no lubrication in the synovial capsule.

In the treatment of these heretofore intractable conditions, considerable advance has been made by the invention of the benzyl-ethyl esters of pyruvic acid compound of methylene disalicylic acid. As a curative remedy in decreasing the formation of uric acid, with the saving of the nutritive values of the protein foods the action of this synthetic compound coincides with the statement of Percy Mays in his text-book on the *"Chemistry of Synthetic Drugs:"*

"The presence of organic acids in the organism generally decreases the amount of uric acid formed, and that effect is greater in proportion to the number of carbon atoms in the acid."

As a systemic antiseptic, especially for the intestinal tract where it increases the peristaltic action, with laxative effect in small doses and purgative in large doses, this synthetic is efficient. By its use I have been able to cause the prompt subsidence of the acute symptoms of arthritis deformans, inflammatory rheumatism, acute gout and the eczema of rheumatic origin. I have used it continuously over prolonged periods in chronic cases without injury to the human organism. And thus I have removed from the system some of the defects of faulty metabolism.

In the case illustrated by the radiograph of the foot, of a woman aged 54 years, this foot had become almost ankylosed by deposits of urates in the joint area. This trouble came on insidiously over a period of ten weeks, accompanied with pain in the left knee on motion and pressure, with swelling and crepitation. The heart, blood-pressure and urine appeared normal. She was given dibenzyl-diethyl-methylene-disalicylic-dipyruvic (cinchoninic) acid in 20-grain doses every two hours, with graded exercise, salt baths and colonic flushing. Gratifying results were obtained in two weeks of this treatment. In six weeks the results were striking. Much of the deposits in the joint area had been absorbed with quite an increase in the articulation. In two months there was a major degree of flexibility of the foot.

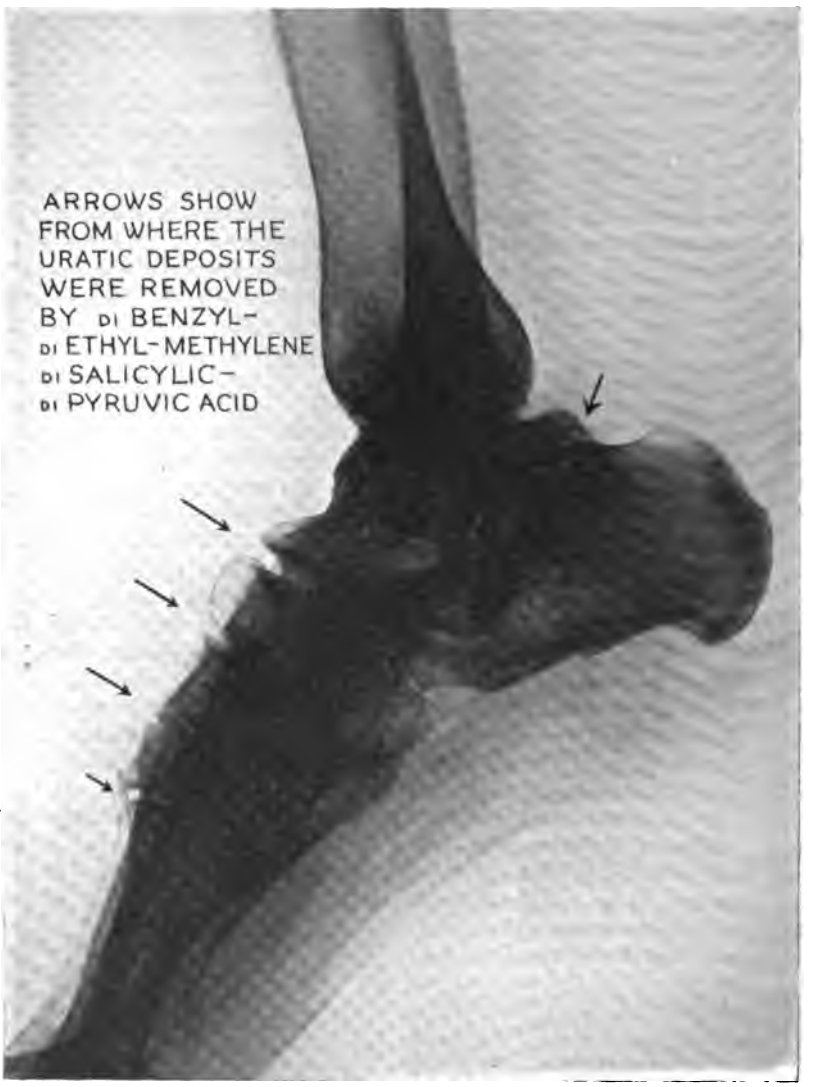


Fig. 3.—Showing hands after treatment.

Another case of equally beneficial results in a pronounced and unique case of rheumatoid arthritis:

G. B., male, aged 49 years, of good habits and good

family history. He was suddenly seized with pains in nearly all parts of the body, excepting the hips. The pains varied in intensity with intermissions and remissions, not severe enough to interfere with his vocation of traveling salesman. Gradually and insidiously, swelling appeared in some of his articulations, especially the phalangeal, knees and ankles.



This foot was restored to flexibility and usefulness after it had become rigid and almost ankylosed from uratic deposits.

Apart from his joint affection he seemed normal. He had submitted to all kinds of treatment, autoserums, baths, baking, running the gauntlet of all methods without relief. Locomotion was becoming difficult, especially in the ankle joints where the deposits seemed greatest, reducing the range of motion 75 per cent. More or less hypertrophy pervaded all joints, producing pain on motion. Excepting a slight elevation in temperature in the evening he seemed normal otherwise, including blood pressure, blood count and urine. He had in the early stages used considerable acetyl-salicylic acid. Then for some time he used acetyl methylene disalicylic acid. Being an intelligent man he is very well posted on the effects of each kind of treatment. In consequence thereof he can speak with some authority on that question. Three months ago he was placed on 30 grains of dibenzyl-diethyl-methylene-disalicylic-dipyruvic (cinchoninic) acid every three hours. After four weeks of this

treatment there was noticeable improvement in his joints. The ankles, which had most hampered his locomotion, showed the greatest improvement. The use of the synthetic just mentioned was continued in conjunction with massage and general motion. As a result there has been a marked improvement.

Children are also equally benefited by this new invention, and they bear proportionately large doses well.

Conclusion

In giving for publication my experience in obtaining these beneficial results, I am returning what I received from others who brought me knowledge on the subject, and patients who had been recommended to me by those who had had their attacks of rheumatism, sciatica and gout abbreviated by me with this treatment. I do it without fear, for the facts are readily confirmed.

We have in this synthetic something tangible to save the valves of the heart from permanent injury from the erosive effects of the rheumatic poison, without depressing the heart's action in the least. Something efficient to meet the emergency with reliability. Something positively curative when given in adequate dosage with sufficient frequency. Something having no contraindications to its use as is frequently the case with sodium salicylate and those products whose continued use destroy the red blood corpuscles, such as cinchophen.

Cancer of the Liver and Gall-Bladder

OFTEN CONFUSED IN DIAGNOSIS WITH OTHER DISORDERS OF GASTRO-PYLORIC, DUODENAL, HEPATIC OR CHOLECYSTIC ORIGIN

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CARCINOMA of the liver is the most common and most important tumor we have to deal with in this organ. Cancer may be, and not infrequently is, associated with cirrhosis of this organ. *Primary* carcinomata of the liver parenchyma are rare, and primary carcinomata of the bile-passages are very rare. These primary cancers of the liver are derived either from the epithelium of the parenchyma or from that of the gall-ducts. The cells are usually polyhedral or cylindrical and may be grouped irregularly in alveoli or may form more or less well-defined tubular structures.

Age and Type of Neoplasm

Tiedemann states that sixty is the average age for carcinoma of the gall-bladder, primary carcinoma of the gall-bladder being chiefly seen in old-aged patients. Leichtenstern says that primary carcinoma of the liver occurs in younger patients, the average age being below forty. My own case of primary cancer of the hepatic duct and region of the fissure of the liver (John Y.) was thirty-eight years old.

Gilbert and Claude (1895), Hansemann (1890), Herxheimer (1902 and 1906), Sokoloff (1900), Goldzieher and v. Bokay, Eggel, Griffith and Castle reported cases of primary malignant tumors of the liver. Hanselmann (1900) and Blumberg (1912) discuss malignant adenoma.

In (L'Esperance) *Journal Medical Research*, 1915, N. S. XXVII, 225, is described a rather atypical diffuse carcinoma of the liver under the name of "atypical hemorrhagic malignant hepatoma." Fischer (1913) reported a unique case of primary chorioepithelioma of the liver.

Secondary carcinomata of the liver are, of course, very much more common than primary growths of the liver. They are usually due to dissemination of cells from cancers of the stomach, intestine, pancreas or gall-bladder and at times they may be the result of metastases from the breasts, esophagus, uterus and other organs.

Howard (1890), Benner (1902), Deetjen (1894), and Schreiber (1877) reported cases of primary carcinoma of the biliary passages.

Primary cancers of the gall-bladder were reported by Brunswig (1893), Ewald (1897), Grawitz, Hartmann (1896), Held (1892), Oberwarth (1897), Schmidt (1891), Seigert (1893), Tiedemann (1891), Wagner (1863), Weber (1891), and Zenker (1889).

Harris (1885), Holker (1898), Laveran (1880), Leichtenstern, Litten (1880), Naunyn (1866), Nölke (1894), Willigk (1869), Weigert (1876), Waring (1897), Wagner, Thorel, Skorna (1895), Sigenbeck van Heukelom (adenocarcinoma with cirrhosis), Rohwedder (1888), Perls (1872), and Porter and Brooks (1902) have reported cases of *primary carcinoma of*

the liver and discussed this subject.

In *St. Bartholomew's Hospital Reports* for the year ending September 30, 1909, page 227, of the list of specimens added to the Museum, there is mentioned (2219a) a *primary* supra-renal type of carcinoma of the liver associated with glycosuria. The centre of the liver is the seat of a solid growth, faintly stained by bile. It is encapsulated, but has replaced the greater part of liver tissue. The patient was a woman aged twenty-three years, a congenital imbecile. She died six hours after an exploratory operation. There were no secondary deposits and the pancreas and kidneys seemed healthy. Microscopic examination showed the tumor to be a carcinoma of supra-renal type.

It may not be out of place to discuss very briefly some of the interesting features and symptoms of malignant disease of the liver and biliary passages.

Pain—Hepatic and Glandular Enlargement

In cancer of the gall-bladder and bile ducts the liver is generaly enlarged. The liver enlarges because of the dilatation of the intrahepatic bile-passages, and later biliary cirrhosis develops. The patients usually complain of *pain* in the upper right abdomen and a sense of fullness or discomfort in the liver region. The pain may radiate to the chest or the back, and under the right scapula. In MacKenzie's case, neuralgia of the right arm was one of the prominent symptoms—he attributed this to the anastamotic connection between the phrenic and the fourth and fifth cervical nerves, branches from the latter of which supply the shoulder and upper arm. Pain over the liver may be due to irritation of the nerves that enter the liver with the arteries or to the tension of the serosa by the enlargement of the liver.

Primary tumors seem to have a predilection for the lymph-channels at the hilum, so that carcinomatous infiltration of portal lymph-glands or of mesenteric and retroperitoneal glands frequently occur.

Leichtenstern has called attention to a *swelling of the jugular gland* that is occasionally observed, but is not always present in primary cancer of the liver.

Jarchette, in two cases of carcinoma of the liver which he reports, found, as an early sign, enlargement of the supraclavicular and cervical glands.

Fever, Anemia and Jaundice

In some cases of cancer of the liver *fever* may be a persistent feature. It may be intermittent, remittent, or irregular. In some cases the fever may be long continued, frequently seen in rapidly growing primary cancer of the liver.

Ebstein has called attention to a chronic recurrent form of fever in lymphosarcomata.

Anemia may occur early and show a very low red cell-count, even less than 1,000,000.

Symptoms from occlusion of the bile-passages are, of course, particularly seen in cancers that start from the common, hepatic or cystic ducts, or from the gall-bladder. Of course, *jaundice* may be caused by intrahepatic growths that lead to obstruction of the bile-passages, by compression, or by direct growth or by infiltrating the porta hepatis, producing cancerous degeneration of the glands of the hilum or by compression of the large bile ducts on the under surface of the liver.

Ascites

Ascites may result from compression of the portal vein, or it may itself be occluded by new growth formation which penetrates the walls of the vein. Carcinomatous metastases may develop at the hilum of the liver and so occlude the vessel. Where cardiac weakness occurs early with the liver cancer, symptoms of portal stasis may become very evident at an early date. Early cirrhotic changes in the liver may also be concerned in the rapid appearance of ascites. Hanot and Gilbert even go so far as to divide the cancers of the liver and biliary passages according to the symptomatology depending on the location of the growth into a cachectic, icteric, dyspeptic and a painful form.

A few cases of hepatic tumors have been operated on, with success. Of course, such cases are rare, as the neoplasm must be primary, no metastases must be present, and the tumor must be so situated on the surface of the liver that it can be completely removed by an operation.

In a paper of this kind it is not essential nor desirable to go into the subject of differential diagnosis, prognosis and treatment.

Origin and Characteristics of Primary and Secondary Carcinoma

Primary Carcinoma of the liver is divided into several different types—such as the massive, nodular and infiltrating cancer.

Hoppe-Seyler states that Hanot and Gilbert differentiate between massive cancer, nodular cancer, and cancer with cirrhosis. The last type corresponds to adenocarcinoma (Siegenbeck van Henkolom) and the adenoma of the liver described by Kelsch and Kiener, Sabourin, and others.

According to the same author *secondary carcinoma* of the liver may often be distinguished from the primary form by the greater enlargement of the liver, the formation of nodules on its surface, a greater tendency to degenerative change, and to the formation of depressions in the nodules. The tumors are usually light in color, whitish-gray or greenish, and are fairly definitely outlined, both on transverse sections and upon the surface of the organ, from the rest of the normal liver substance. The organ may weigh 8 kg. or more. Cancerous thrombi are seen in the portal vein or its branches in many cases of secondary cancer.

Bland-Sutton, in his little book (1910, p. 130) on

"Gallstones and Diseases of the Bile Ducts," says in reference to cancer of the gall-bladder that cancer may arise in any part of the mucous membrane of the bladder and may spread directly into the subjacent hepatic tissue. It is not uncommon for the gall-bladder to be implicated with cancer of the liver, both primary and secondary; it requires some care to discriminate between primary cancer of the gall-bladder infiltrating the liver and cancer of the liver, implicating the gall-bladder.

"The most important feature connected with *primary cancer of the gall-bladder* is its almost constant association with gallstones. Careful investigations on this point prove that *in at least 95 per cent. of cases gallstones are present.*" Bland-Sutton further adds, that "although cancer of the gall-bladder is *nearly always* complicated with *gall-stones,* this association is quite exceptional when primary cancer arises in the common bile duct or the ampulla."

Primary cancer of the gall-bladder is three times more common in women than in men (gallstones are much more common in women), and the period of greatest liability is between the fiftieth and sixtieth years.

Bland-Sutton calls attention to the fact that the beginning of the disease is very insidious and it is remarkable that notwithstanding the presence of gallstones, the familiar signs and symptoms of cholelithiasis are usually absent. Primary cancer of the gall-bladder runs a rapid course, and is usually fatal within 6 months of the onset of definite symptoms. In reference to primary carcinoma of the common and hepatic ducts, Bland-Sutton says, "it is a rare disease" and that the association of gall-stones with cancerous bile-ducts is uncommon.

Schnabel (Am. J. M. Scs., July, 1921, page 102), says, "that gallstones predispose to cancer is a point for much argument." "It is true that 70 to 90% of operated primary carcinoma cases of the gall-bladder are accompanied by stone. This is not true for primary duct carcinoma." He intimates that stones may frequently follow rather than precede carcinomatous changes in the gall-bladder. He further adds that "primary bladder malignancy is *sometimes* accomplished by stone formation" and that "secondary carcinoma of the gall-bladder seldom is accompanied by stones."

Ernest Glynn (November 4, 1911, Brit. Med. Jour., p. 1192) states that "primary cancer of the liver is a comparatively rare disease, and cancer associated with cirrhosis is even less common."

Sixteen primary cancers of the liver occurred in 2,050 post-mortems made at the Liverpool Royal Infirmary during 13 years. Of these 16, five were associated with gallstones and apparently originated in the gall-bladder or large bile ducts; in three of the remaining 11 there was definite cirrhosis. He reports a case of primary hepatic cancer with cirrhosis in a man aged 49 years, a laborer by occupation. Ascites and edema of the feet were present.

The liver weighed 119 ounces, the spleen 27 ounces. There were a few scattered hobnails on the surface of the liver. The left lobe measured 25 x 21 x 9 cm., while the right lobe was a little smaller, 18 x 10 x 10 cm. There was considerable compensatory hypertrophy of the Spigelian lobe. The enormous enlargement of the left lobe was almost entirely due to compensatory hypertrophy. Here and there appeared green and yellow adenomatous nodules, circumscribed by fibrous tissue from 1 to 2 cm. in diameter. The right lobe showed the usual appearance of multilobular cirrhosis. Malignant tumor was in the right lobe, and an adeno-carcinoma.

Glynn refers to two other cases of cirrhosis with carcinoma, one in a man aged 32 and the other in a butcher aged 54. There was an alcoholic history in all three of his cases. He mentions cases reported by Drennan (1911), Beattie (1911); Van Huekelom (1894), who gives a table of 30 cases; Muir (1908), and others. The liver in Glynn's case was remarkable because of the great variation in the extent of the cirrhosis, and the different types of growth affecting different portions of the liver, namely, hyperplasia, hypertrophy, adenoma, and carcinoma. He says the growth evidently originated in the hepatic cells, not bile ducts.

Castle (Surgery, Gynecology and Obstetrics, p. 477, 1914, XVIII) states primary carcinoma of the liver at any age is rare. He reports a case of the massive type of primary parenchymatous adeno-carcinoma of the liver in a male infant aged 10½ months old. He tabulates a total of 42 cases of primary hepatic cancer in childhood, (under 16 years of age). He states that his is the first case reported in which complete surgical excision was done. He refers to cases reported by Hanot and Gilbert (24 cases—in adults), Deschamps, Wulff, Eggel (117 cases microscopically diagnosed), Pepper, Pye-Smith, Phillip (12 cases authentic—in childhood), Karsner, Ackland and Dudgeon (report 7 cases and their own in a boy aged 15 years), Burt, Peifer (9 months old infant), Fussell and Kelly (girl aged 16 years), Nagasawa and Nakamura (17 months old infant); Miwi and Saito (girl, 5½ years old), Yamagiwa (girl, 1 year old); Musser (tabulates 10 cases of hepatic cancer occurring in childhood), Kotlman (9 years old), and Birch-Hirschfeld (aged 12 years). Idzumi's case of primary hepatic carcinoma occurred in an infant aged 7 months.

Miwi and Utsumi reported a case similar to Nagasawa and Nakamura's case.

Hanot and Gilbert (Etude sur les Maladies du foie, 1888) say that primary cancer of the liver presents

its maximum frequency from 40 to 48 years, is rare from 30 to 40 and is exceptional under 30. White believes the proportion (as estimated) of undoubtedly primary to secondary carcinoma of the liver is as 1:25.

Magoun and Renshaw (Ann. Surg., December, 1921, p. 700), in their paper on "Malignant neoplasia in the gall-bladder" state "primary sarcoma is considered exceedingly rare;" Rollestone (1914) cites only fourteen references to this type of growth. In my paper on "Primary Sarcoma of the Gall-bladder" (Amer. Jour. of Surg., November, 1921, p. 351) I stated I was able to find only about sixteen authentic and accepted cases of primary sarcoma. In a review of the literature Magoun and Renshaw mention the three cases of *cancer of the gall-bladder* reported by Stoll (two in 1777) and by Hallé (one in 1786), a doubtful case reported by Baillie (1794) and 7 cases reported from 1800 to 1850. Durand-Fardel (1840) being the first fully to describe the condition. They quote Fawcett and Rippmann's statistics of 48 cases of malignant disease in the gall-bladder, found in 592 necropsies in cases of gallstone. Deaver's series of 1,000 operations for gallstones with 1.6% malignancy and Smithies' series of 1,000 operations on the gall-bladder with 2.3% malignancies.

Musser found stones in 69% of the cases of primary malignant disease of the gall-bladder, Deaver in 89% and Courvosier in 91%.

From January, 1907, to January, 1921, 7,878 operations were performed for gallstones at the Mayo Clinic. Within this period primary malignancy of the gall-bladder was found in 84 cases—82 cancers, 1 epithelioma, and 1 lymphosarcoma. The lymphosarcoma involved both the fundus and the pelvis. 38 cholecystectomies were done in the series of 84 malignant cases and stones were found in 37 of the 38. The epithelioma case was unaccompanied by stones, while the lymphosarcoma was associated with them.

Frank Smithies, of Chicago, reviewed 23 cases of primary cancer of the gall-bladder (in the American Journal of Medical Sciences, 1919, CLVII, p. 67).

References

Appel (Arch. f. Schiffs- u. Tropen-Hyg., Leipzig, 1921, XXV, 309-314) reported a case of multiple adenocarcinoma of the liver in a negress.

Buscemi (Riv. d'ostet. e ginec. prat., Palermo, 1921, III, 383-388) reports a case of primary cancer of the liver in a pregnant woman.

Massey (Jour. Trop. Med., London, August 15, 1921, XXIV, 216) discusses cancer of the liver in the African native.

In Annales de Médecine, Paris (X, 295-302, October, 1921, No. 4), *J. Catsaras* reports a case of primary cancer of the liver with metastasis in bone. The *primary* adenocarcinoma in the liver *with cirrhosis* had entailed metastasis in the head and neck of the right femur. The cells of the tumor in the femur showed the same arrangement as in the liver, and abundant production of *bile*, the tumor tissue being *deep green* in color. He was able to find only *one* other case on record in which there was metastasis in several *bones* from a *cancer of the liver*. His was the second case.

S. Matsin (Gann, XV, 4, February, 1921) reports an instance of primary cancer of the liver, and describes some special histologic findings, emphasizing the resemblance between hepatoma and malignant syncytioma, from both the morphologic and metastatic standpoints.

Recently (May, 1922), before the Association of American Physicians, *Dr. Geo. Morris Piersol* and *Dr. Bockus*, of Philadelphia, reported *favorably* on the use of *phenoltetrachlorphthalein* (Hynson, Westcott, and Dunning) as a *liver function test*. They tried this out in about fifty cases at the Polyclinic Hospital, Graduate School of Medicine, University of Pennsylvania, and found that the elimination of this dye was definitely decreased in liver disease. They used the Rehfuss and Lyon duodenal tube for obtaining the specimens.

Summary of Their Technique

(1) With the tip of the duodenal tube in the duodenum 150 mgms. of the di-sodium salt of phenoltetrachlorphthalein are injected intravenously. [Each cc. of solution containing 50 mgms. of dye.]

(2) Time of injection is recorded.

(3) 500 c.c. of water is given by mouth every half-hour to insure a constant drip from the tube. The dye is not injected until this drip has been established.

(4) The bile stained fluid is collected in white basins. The appearance time of the first faint pink color is recorded as the first appearance time and that of the maximum intensity of color (purple) is recorded as the maximum color change. (3 or 4 c.c. of 40 per cent. NaOH is added to the basins to bring out the color.)

(5) All the bile eliminated through the duodenal tube over a period of two hours following the injection of the dye is collected in basins, each half-hour's output being segregated.

(6) The dye excreted is separated from the bile and the amount estimated by a simple colorimetric method.

Conclusions

(1) We have presented here a technique in detail which we believe yields information of decided value concerning the functional competency of the liver.

(2) As the duodenal tube is now being generally

(*Continued on page 592*)

The Anti-Malaria Campaign

By W. H. RAND, M.D.,
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Malaria, a problem of ages, is still a problem of today. We have discovered its etiology. We learned its mode of prevention, control and cure, but we still have it and we have it because we fail to enforce the several factors concerned in its eradication, as we learn from Dr. Rand's excellent paper.—EDITORS.

TWO CONDITIONS are prerequisite for the genesis of malaria. First, there must be an unprotected or non-immunized man; and, second, an infected mosquito to bite him. These are the necessary dual antecedents of malaria. Eliminate either of the factors and the disease cannot exist.

Hence, it follows that the man whose blood is charged with sufficient quinine to kill the *plasmodium malariae* will remain immune to the infection when inoculated with it; or, though unfortified by quinine, he will still escape the disease, provided he is shielded by mosquito bars and screens, so that the germ-bearing anopheles cannot get at him.

But the anopheline mosquito is not infected when she emerges from the stagnant pool which serves as her procreant cradle, and she remains inocuous until she ingests blood drawn from a victim of malaria. Then she becomes a menace to the community as intermediate hostess of the parasite of malaria, and in about nine days she is capable of conveying the infection to all that come within reach of her proboscis.

There are, therefore, but two requisites for prophylaxis. The first consists in immunizing the man against malaria by cinchonizing him. The other means is to prevent mosquitoes from obtaining access to susceptible people and to malarial patients alike. Unimmunized persons need protection from the insects in order to escape infection from their bites, and mosquitoes must not be suffered to feed upon malarial patients, for by so doing they would contract the infection and spread it far and wide among the victims of their thirst for blood.

Malaria Prevention

The best way to rid a locality of mosquitoes is to make their habitat intolerable for them. Drain swamps, fill in marshy ground, let top minnows feed on the larvae incubated in ponds, oil the surface of stagnant water; in short, destroy their breeding places, and you abate the mosquito nuisance at once.

Render a man's blood-stream lethal to malarial protozoa by saturating it with quinine, and the parasites will soon die in the uncongenial environment.

However, these are not alternative expedients, but co-ordinate procedures, both of which should be employed simultaneously, for it is not safe to rely exclusively upon either measure alone, since perfect observance of a sanitary regimen cannot be expected or enforced. Each of these preventive measures supplements the other, and in combination they constitute a complete system of prophylaxis.

Of course, there is nothing new in the foregoing recital. The conditions necessary for the control of malaria are everywhere understood and admitted, and the sole reason that the familiar facts have been cited in this connection is that they constitute a common basis of agreement as to the measures requisite for the conquest of an infection which from remote antiquity has wrought greater damage to mankind than any other disease, with the possible exception of tuberculosis, and it is often the precursor of the great white plague.

Prophylactic Efficiency

Now it is demonstrable that, whenever and wherever the attempt has been made to apply the principles of prophylaxis to the solution of the malaria problem, either on a large scale or in a limited area, a gratifying measure of success has uniformly rewarded the endeavor. Data to support this claim are abundant and unequivocal.

For example, in Italy during recent years an aggressive campaign against malaria has been carried out under governmental authority. At the beginning of this century, sixty-three of the sixty-nine Italian provinces were infected, and the mortality from the disease in fifteen years (1887 to 1901) aggregated 227,265. About 12,000,000 subjects of King Victor Emmanuel were at that period subject to the odious domination of paludism, the morbidity among residents of the malarial zone being 87 per cent. of the entire population. In 1905, the rate fell to 25 per cent. and to 6 per cent. in 1914.

This reduction of malaria is due to the activity of the public authorities in enforcing sanitary legislation, which Professor Celli's experiments caused to be enacted after the futility of drainage, screening,

etc., in that country had been demonstrated.

Quinine

Celli gives a detailed account of the experimental distribution of quinine as a preventive, first at Cervelletta, and subsequently in the Roman Campagna. He cites instances where mosquito nettings were used around beds, and where irrigation waters were treated with kerosene. "But in spite of all that, malaria persisted in the gravest form until within the last few years, when quinine prophylaxis has been strictly required of every inhabitant, causing the disappearance of the disease." (*The Restriction of Malaria in Italy,* p. 528.)

Under the Italian law, employers must pay for the quinine which is supplied gratuitously to workmen in malarious localities. Twenty-four hundred kilograms of quinine tablets are distributed annually to the employes of the Italian railways. In 1920 more than 2300 of these workmen were immunized at a cost of 100,000 lire. (*Il Lavors,* July 31, 1921, p. 93.)

Since the epoch described by Celli there has been an epidemic recrudescence of the disease. Perhaps the war may have demoralized the health service. However that may be, in 1920 21 per cent. of the personnel of the Italian railway force were victims of the infection. The lax administration of sanitary law naturally incurs a penalty, and this example illustrates the necessity of continuous, unremitting quinine protection.

The Preventable Not Prevented

The report of the Sanitary Commission of the British Government in India for the year 1918 reveals the fact that an inefficient and makeshift policy prevails there in reference to malaria. The situation in that country is indicated by the following extract from the official report of the medical director: "As malaria is undoubtedly a preventable disease, the old query, if preventable, why not prevented? will continue to be asked. If the sanitary measures required were carried out, mosquitoes would cease to be prevalent. If quinine were administered, the troops would be rendered immune; if mosquito nets were used, they would be protected. The results that have been obtained in Italy, Panama and elsewhere prove beyond question that under the most difficult conditions of environment, satisfactory prophylaxis is practicable." (*Lancet,* June 25, 1921, p. 1394.)

Everywhere one hears enthusiastic approval of the comprehensive system of malaria suppression practiced so successfully in Italy and at Panama, though individual opinion may regard with too exclusive attention a single phase of the preventive treatment.

When this subject was under discussion at the Fifteenth International Congress of Hygiene and Demography in 1912, Dr. Craig, of the Medical Corps, U. S. A., declared that the results achieved in Italy "furnish an incontrovertible argument in favor of quinine prophylaxis." Prof. Wellman, of New Orleans; Dr. Thayer, of Baltimore, and others expressed the same opinion, deeming quinine indispensable for the control of the infection.

Drainage and Screening

Dr. Orenstein maintained that in Panama "drainage was the best defence against malaria," and this view was apparently endorsed by Col. Havard, who referred to the extensive drainage work done by the Italian Government as an important factor in malaria control.

Col. Maus emphasized the importance of barrack screening with wire counting eighteen meshes to the inch, "since both the anopheles and the stegomyia can pass through the sixteen-mesh screens."

This fact is too often ignored, and the screen-wire usually kept in stock at hardware shops and used for door and window screening is of the fourteen-mesh gauge. Anyone that carries a tape measure may easily verify this fact for himself. It is ineffectual screening with wide-meshed wire, which often nullifies all other measures of malaria prevention; for, while fourteen-mesh screen-wire serves to keep out flies, it is no barrier to the anopheline mosquito. Personally, I have been unsuccessful in my hunt for screen-wire finer than fourteen-mesh to the inch in this neck of the woods.

Covering the screen with a coat of paint or varnish, however, narrows the interstices of the wire netting so that mosquitoes cannot pass. This expedient also prolongs the life of the wire.

Accessory Agencies of Prevention

Among the accessory agencies or methods of malaria prophylaxis enumerated by Professor Ruge, of Kiel, during the discussion of this question were the introduction into mosquito-breeding waters of fishes which feed upon the larvae of the anopheles; destruction of water plants which are a shelter and hiding place for the larvae; the use of petroleum as a larvacidal film on the surface of undrainable pools; effective screening; thorough drainage of swampy land; quinine preventive treatment; and the segregation of newcomers from the native inhabitants. (*Die Bekampfung der Malaria,* Trans. 15th Int. Cong. of Hyg. and Demog., Vol. V, Pt. 2, pp. 531 to 542.)

In his *Rapport sur la Lutte contre le Paludisme,* Edmond Sergent describes an ingenious measure instituted by him in Algeria, where the irrigation ditches form breeding places for mosquitoes. It consists of an intermittent or alternating water supply. The ditches are allowed to become dry at weekly intervals, so that the larvae perish. "To attain this ob-

ject it is sufficient to have two ditches operating alternately." (*Ib.*, p. 537.)

Prior to 1904 the Panama Canal zone was one of the most insalubrious regions in the world on account of the prevalence there of malaria and yellow fever, both mosquito-borne diseases. As everyone knows, that pestilent country has been transformed by sanitation and made inhabitable, so that white people in the civil and military service are able to maintain robust health and engage in strenuous work in a terrain which was once shunned as a graveyard of the human race. The construction of the Isthmian Canal was made possible by the sanitary reclamation of that Gehenna, and the successful administration of the great waterway is absolutely contingent upon the maintenance of hygienic conditions there.

Prevalence in the United States

It were devoutly to be wished that conditions favorable to malarial infection could not be found to exist anywhere within the jurisdiction of the United States outside of the canal zone. But it is impossible to ignore the unwelcome fact that the incidence of malaria in some of the states of the Union exceeds the ratio of its prevalence in Panama at a period prior to the occupancy of that territory by the United States.

In Arkansas, according to *Public Health Bulletin, No.* 88, (September, 1917), "Malaria is widely prevalent in a severe form, and exerts a sinister influence on the sanitary and economic well-being of a large population." The report adds that malaria is "the chief cause of all illness in this region, and responsible for a high proportion of pernicious attacks, hemoglobinuric fever and deaths." (p. 8.)

In this unpromising environment the Public Health Service began control operations in April, 1916. It was a formidable undertaking. But the work was planned and prosecuted with the energy and system of a military campaign. As a result, the incidence of malaria was reduced 77.33 per cent. in a single season.

To appreciate the scope of this achievement, one must remember what was involved in it. There were problems of hydraulic engineering to be solved. Housescreening against the anopheles required patience and alertness. Extermination of mosquito larvae in their acidification lairs demanded knowledge and skill. Immunization of the people and sterilization of the infected called for a standardized treatment which only qualified physicians could give.

Eradication Easy

Whoever reads the fifty-five-page history of this health crusade will gain from the perusal an inkling of the difficulties met and overcome, and will frankly admire and profoundly respect both the character and the devotion of the crusaders.

It is not, then, an illusion of hope or the vagary of an unbalanced mind to anticipate that, in the near future, malaria may become extinct. It has already been demonstrated by hard-headed sanitarians that control of the infection is not only feasible, but easy. The sole requisite is that communities should be made to understand the situation and to realize that emancipation from the bondage of the disease is assured, if people want it. The descendants of ancestors who won their independence from a royal parasite will not forever submit to the domination of a parasitic insect.

Already patriot groups are in revolt against the tyranny of the mosquito. In New Jersey public sentiment is aroused, and soon the incubus of malaria in that state will be shaken off "like a dewdrop from a lion's mane."

The price of the new freedom is not prohibitory. Near Augusta, Georgia, on July 18, 1921, anopheline mosquitoes were found in great numbers, and a neighboring pond swarmed with their larvae. On July 19, two thousand top-feeding minnows were transferred to this pond. On July 20, no *wiggletails* were visible. "The cost in this instance for complete, prompt and continual control of mosquito production was not more than $1.00." (*Public Health Reports,* September 9, p. 2221.)

The Difficulty of Controlling the Human Factor

Unfortunately, it is more difficult to control the human factor that helps to multiply and perpetuate malaria. Men cannot always be induced to adopt protective measures in order to promote the general welfare. On this point an editorial comment in the *American Journal of Clinical Medicine* of May, 1917, is so apt as to justify its reproduction here:

"Were it a question of inoculating the cattle or sheep, it could readily be accomplished, but man—it would be more arduous than any cleansing of stables Augean to pass in review the entire population of the malaria sections to detect those in whose systems lurked the plasmodia and to eradicate the parasites with effective plasmodicides. Yet, by so doing we should reduce the possibilities of malaria infection to the few who might escape disinfection by the imperfections incident to the practical application of the method."

Conclusion

In the long run the propaganda of hygiene is sure to attain its goal. Ultimately health will become fashionable and invalidism unpopular. This implies that the obstacles which impede the progress of sanitary reforms must be removed. Malaria is one of these, and as the Roman orator concluded every speech with *"Delenda est Carthago,"* (Carthage must be destroyed) so should the public health worker de-

mand with repetition and emphasis the absolute suppression of this infection.

Some day, as civilization advances, nations will relegate war (the fine art of wholesale murder) to a subordinate place as a means of redeeming the world, and will cease to venerate the killers of mankind. In the new earth that is to be, monuments more enduring than brass shall be erected to the memory of those who, in every age, have labored to safeguard the lives and promote the health of their brother men.

Conduct of Third Stage of Labor—Gordon

(Continued from page 566)

Case Presentations

The following summarized cases are illustrative of some of the above conditions.

1. *Placenta Circumvallata.*—Fberuary 28, 1920, I manually removed a placenta circumvallata from a primipara aged twenty years, who had been delivered after a normal labor of eighteen hours, without cervical or perineal lacerations. After the usual attempts to deliver the placenta by expression, pituitrin, and Crede during two hours, she was allowed to rest for several hours since there was no hemorrhage. The placenta was fully adherent in the right cornu.

2. *Adehsion t› Fibroid.*—In August, 1921, I was called to deliver a patient for Dr. Adolph Ruff. She was a multipara who had no history of difficulty in her previous labors. A fetus in transverse presentation was delivered by podalic version. There was sharp hemorrhage, which was controlled by massage of the uterus, but which recurred when the uterus relaxed. Manual separation of a partially adherent placenta was accomplished in what at first felt like a bicornuate uterus. The condition proved to be a submucous fibroid about three inches in diameter, to which the placenta was adherent over part of its surface. The placenta was partly atrophied over the area of adhesion. Growth of the tumor had probably occurred after the placenta had developed.

3. *Adherent Polypus of Chorion Near Placenta.*—On December 4, 1921, I delivered a tripara, aged thirty-two years, of a seven-pound child after a dry labor of six hours. With the head at the outlet, seven minims of pituitrin were given to stimulate the uterine contractions which had lessened in force. After delivery of the child she was given seven more minims of pituitrin. There was a steady oozing of blood, which was only partially controlled by massage. An ampoule of pituitrin was given during the next hour, and during the following half-hour two Crede expressions were tried. These nearly caused syncope and were not further employed. Manual exploration showed adhesion of an atrophied chorionic mass close to the upper edge of the placenta.

4. A patient, a primipara, aged thirty-five years, was under the care of another physician, who called me to give the anesthetic for a forceps delivery, after thirteen hours' labor, during which she had received four injections of pituitrin. After delivery there was considerable hemorrhage. The bleeding could not be controlled by massage of the uterus. In spite of urgings to remove the placenta manually, he continued his efforts to massage the uterus and in pulling on the cord, tore it off at its insertion into the placenta. Only when the patient was moribund would he recognize her serious condition. The patient died. The fear of entering the uterus had been so instilled into him that he waited too long.

These patients made uneventful afebrile recoveries.

Medical Diathermy—Folkmar

(Continued from page 570)

portant to prevent deforming sequelae as it is to properly apply a splint or to prescribe a drug.

The laymen now demand radiographs in the case of dislocation or of fracture; and they will soon demand diathermy in the treatment of many joint and bone lesions.

In the last paragraph of my article on Medical Diathermy appearing in the June issue of the *American Physician,* I stated briefly that Dr. Sampson had demonstrated the importance of exposure to the actinic rays before giving x-ray treatments.

Dr. Sampson's (Major Chris. M. Sampson) paper will be published in the *American Journal of Electrotherapeutics and Radiology.* But in justice to Major Sampson, who has been doing very commendable work in developing a technique which renders the skin more resistant x-ray burns, and to the readers of the *American Physician* who may not see Dr. Sampson's paper, I wish to quote a few conclusions from Dr. Sampson's paper which he has permitted me to read. He says "Surfaces tanned gradually by exposure to sunlight or weak application of the actinic ray without erythema being produced show a slightly increased tolerance to x-ray dosage, but nothing like the increase caused by repeated heavy erythema, rapidly produced, by the Quartz mercury burner. This increased tolerance seems to follow whether the surface tans or not, but possibly not so great a degree where tanning does not take place."

Major Sampson not only preceeds x-ray treatments by a course of actinic ray exposures, but he follows x-ray dosage by more exposures to actinic rays. He states that by this technique he has been able to "greatly exceed doses, which before the use of this method, regularly gave us a dermatitis, without a single depilation occurring or symptoms which indicate that a dermatitis had occurred." Dr. Sampson feels that much more research work must be done to determine to what degrees x-ray dosage may be safely increased when the actinic ray is employed in conjunction with x-ray therapy.

This Journal, having now pubilshed several articles proponent of Diathermy, wishes contributions on the subject from physicians whose experiences with this measure have not been entirely satisfactory. The profession wants both sides.—Editors.

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practioner must be recognized. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

That Vexed Question of Diagnosis

DR. J., OF CLEVELAND, complains that the general practitioners fail to take advantage of cystoscopy, urethral catheterization, renal function tests, pyelography and other diagnostic means in their management of urologic conditions. Dr. R., of Chicago, blames the family doctor for neglecting serial titration in the determination of total gastric acidity, Uffleman's test for lactic acid, Hammerschlag's method for estimating peptic activity, etc. Someone else blames him for not employing the meiostagmin reaction in serodiagnosis, and fifty-seven other kinds of specialists become equally excited over the fact that their pet diagnostic measures are not employed by every general practitioner in the land. Sometimes we wonder how many of these perfervid special pleaders could make a full and consistent, bedside, physical diagnosis, such as the general practitioners become skilled in making.

We are quite willing to concede the value of probably 25 per cent. of the diagnostic measures exploited and the concession includes the admission that an equal percentage of the specialists know what these diagnostic findings mean in the concrete case before the real and final diagnosis is arrived at by ordinary clinical means. To come to the point, most of these special tests are merely contour lines in a topographical survey of the whole case, no one line counting for much until after the chief engineer—the general practitioner—goes over the map and sizes up the whole situation, determining what *is* to be done and the far greater number of things that do *not* need to be done. If all of the findings of the specialists actually led to *doing things*, the patient would be "done to death" with a maze of instrumentations and special measures human flesh could not stand.

The Diagnostic Tower of Babel

We are led to these observations from a letter received from a former colleague now practicing in Los Angeles, and in which he says the general practitioner is almost extinct there, a maze of specialists treating the case medically, surgically, osteopathically, chiropractically and psychopathically until the patient lands in one of the hospitals, where he finally gets sane attention and may get well after recovering from the multitude of things that have been done to him and his pocketbook.

Los Angeles is only a few jumps ahead of the rest of the country in this, as in other things, so we can see what we are coming to back East. 'Tis *not* a consummation devoutly to be wished.

Seriously, it is not the fix of the general practitioner that we are mourning over, for he can become a specialist himself in short order and profit financially by doing so; but it is the menace to medicine itself and the public health in particular that concerns us. The question is, how shall we unscramble the mess? A clever Japanese gentleman has described the United States as "The Land of Liverty." It is: also of kidneyty, appendixty, hormonety and insanity. Our people are wild on having things done to their interiors and finding out what the specialists think ought to be done; and it is becoming a very profitable line of business to exploit this national weakness. In this, we must admit, the medical profession itself is taking its full share.

Drafting Room Engineering

Let us give a parallel illustration. One can spend four years in a university becoming a landscape engineer, learning French, German, botany, psychology, mathematics, ecology, nomenclature and pretty drafting; and then the graduate goes out advocating some school of design, wears fine clothes and sets up as a professional adviser at so much per hour. But the experienced gardener and contractor walks circles around him, gets the business, and lets the college man strut—and starve. This poor chap, full of professional enthusiam, gets up a water-tight organization of his kind and asks for a State Board to protect him and keep the practical men out. We medical men can't throw any stones at him, for we have pursued the same tactics ourselves, the result

being that we have also evolved some very pretty technic, split up into specialists, strut—and there are many educated doctors working in diagnostic laboratories at starvation wages instead of being useful practitioners where they are actually needed.

Now, all of this is drafting room engineering, the chaps in the drafting room being poorly paid college men after they have failed in business for themselves, while the hard-fisted field foremen and headquarters officers—usually not college men—pull down big money. It is rapidly coming to the same thing in medicine. At present the drafting room men in medicine are trying to belittle the field workers, splitting up into narrow specialties. It is easy to see what will happen. The big engineering firms are printing standardized designs on tracing cloth, employing cheap draftsmen to letter in dimensions and shop directions, making blue prints from such a tracing, and getting to work outside in a business-like way with Mike and Jake getting the big pay every week to stuff down in the pockets of their greasy overalls, and the big Corporation getting the profits. The engineering profession is only a few jumps toward poverty ahead of us; and the big foundations, exclusive hospitals, etc., will soon put us where they think we belong. The specialists who depend mostly on laboratory findings will then be in the position of the college graduates getting seventy-five dollars a month in the drafting room.

Even now the big-income men in medicine are the ones who know how to do things with their hands. These men have taken the advice of the old Yankee, "Always whittle toward you."

The time is fast coming when it will be the field man in medicine who makes the money; and even he will not do it if the medico-political line-up of today gets its way, except for the few favored ones. Despite the ultra-scientific sound of our modern laboratory technic and diagnostic methods, girls and young women, not medical graduates, are being trained to do it because they will work cheaply, and because it really does not take a medical education to do the work. As in engineering, science has entered the medical field and has given opportunity for shop standardization. If you don't believe this, go through Henry Ford's Hospital in Detroit and keep your eyes open. Is Uncle Henry running that hospital to help the medical profession at large? It is a good hospital, at that, but most of the doctors in Detroit never saw the inside of it beyond the office. One can't blame Uncle Henry, either.

The Remedy

Doctor, view yourself as an engineer; and be a chief one doing field work, just like general practitioners have long been doing. But buck up. Don't yield to the clamor that the mere technician and laboratory worker who seldom sees a real patient outside is It, while you are "small potatoes." Send to most any big college for women and ask them to send you a laboratory worker. She will be glad to get the job. Thus you will have a laboratory expert working *for you* and you will be in position to branch out. Get a nurse for certain hours and make these diagnostic surveys yourself. You and she can soon get the hang of it all, for it is not so difficult after all, despite ponderous talk by specialists.

If you do not feel like doing this by yourself, yoke up with three or four other doctors, or all in town for that matter, and open a diagnostic laboratory with appliances and facilities for special technic. You will get it going more easily than you think. Then all of you use it like the big firm of engineers use a drafting room. It is unthinkable, now-a-days, that the drafting room and technicians boss the engineering firm. Then why should the general practitioners in medicine weakly surrender their position to technicians doing work that any new graduate can do?

This is not said in disparagement of *real* specialism in medicine; but it is said directly in opposition to the rampant and bombastic alleged specialism that is driving medicine on the rocks, to be salvaged by big foundations and organizations who, once they get control, will make the lot of the medical man hard indeed.

Doctor J. and Dr. R., referred to in the opening of this editorial, are right in principle, but not in detail. Let us take our cue from them and step right out into the middle of the stage, letting the men behind shift the scenes for us. Only in Chinese theatres do the stage carpenters work in front of the actors and get most of the attention. It *is* true that general practitioners *are* neglecting very valuable diagnostic measures and necessary technic. We ought not to do it, but just so long as we do the patients get results elsewhere. Doctor, think it over. Then get in medical practice *right*. You will not regret it.—T. S. B.

On the Management of the Chronic Nephritic

Arthur A. Herold, Shreveport (*N. O. Med. and Surg. Jour.*, December, 1921), sums up the management in general, as follows:

1. Do not try to do too much; avoid over-eating. Place some reliance on nature.
2. Advise against over-taxing organs; patient should not overeat or overdrink.
3. Get co-operation of intelligent member of family or competent nurse; if patient not seen regularly, get frequent reports.
4. Remove *probable* foci of infection. Treat any cachexia or diathesis. Avoid useless drugging, but do not hesitate to employ morphia promptly, when indicated.
5. Use common sense as to clothing, exercise and fresh air. Avoid danger of chilling, but remember the patient is no hot-house plant. Secure his confidence and there will be no trouble about his co-operation in these respects.
6. Be guarded as to prognosis.

Physical Culture Propaganda

A PHYSICIAN of ability recently suffered a breakdown and an examination showed a dilated heart; he attributed it to over-exercise years ago, more especially to the strain incident to a "century run" during the bicycle craze that was productive of many such cases, several to our own knowledge. Formerly living next door to a vaudeville theatre, we were consulted by numerous acrobats, and they were practically a unit in the expression of belief that their class were rather short-lived and were very subject to cardiac and nervous affections. Formerly the consulting physician to a gymnasium, we realized the great value of properly directed physical education but also were constantly impelled to advise a slowdown in the cases of many who placed more value on the ability to do stunts than to rationally develop the physical being.

We were much interested this summer in the river sports adjacent to our home. The municipal beach and bath house was the most popular place in the city, there being no foolish restrictions against young people enjoying themselves in any sort of costume not actually immodest. Bathing, swimming, beach sports, canoeing, sailing and other sports were indulged in bathing costume, hundreds of young men and women becoming brown as Southern Europe people, and this without damage to health, serious accident or scandal. Every pleasant night boats accommodating about three hundred people made up-river trips and their dancing floors were usually comfortably filled. There was no strain in these outdoor sports and we know they did an infinite amount of good to a lot of people who worked regularly at store and office but who hastened to the ferry soon as they were free to go.

Gardening is a splendid form of exercise, and we have known of many office workers who were immensely improved in health by making this their fad. Motoring, golf, tennis as ordinarily played, and other outdoor sports *with some object to them*, all tend to the rational form of physical development; but the gymnasium systems of exercise designed to make athletes, so exploited in the magazines devoted to physical culture, often do infinite harm to health. In no sense do we condemn the gymnasium; but it needs medical supervision and less of the tactics of the "professor" who is constantly measuring muscles and urging severe tests. This freaky individual usually is obsessed with some foolish cult notion—raw food, fasting, vegetarianism, or one of the speudo-medical propagandas that makes drugs their devil.

One-Sided Publications

It is really amusing to a trained physician to read the various magazines devoted to physical culture. While it is true they print many articles of value, they also publish much foolishness. We don't particularly mind their slams at drug-taking, for people dose themselves entirely too much, and there are many physicians who use drugs unwisely; but it is the general experience of physicians that when the readers of these publications become really ill and need medicine, they take it readily enough, as do even Christian Scientists when they get a pain. What we object to is propaganda against vaccination, the surgical removal of adenoids, the surgical treatment of appendicitis, and other definite measures productive of a reduced morbidity and mortality. These magazines could do infinite good were they to print articles written by balanced physicians of ability who would warn against the *abuse* of drugs and various medical and surgical procedures—articles such as the *Saturday Evening Post* occasionally prints—and that would guide their readers in sane living. But they do little of this; for just as soon as some half-cooked physician gets sore at regular medicine and starts to write yellow stuff, these magazines open their pages to these vaporings of the soured mind and exploit one-sided ideas that are harmful to the reader, who knows too little of medicine to differentiate between mere literature and science.

There is a real place for magazines devoted to physical culture; but they should select competent contributors, of whom there is no dearth. There is little place in the everyday world for a set of acrobats, but there is a dire need for men and women in business and professional life to be properly developed physically, to be guided in sane and hygienic living, to understand the principles of sanitation and personal hygiene, and to be warned against quackery, both in and out of the medical profession. And it can do no harm to roast the medical and surgical extremists once in awhile; some of them need it.

Yellow Advertising

These magazines preen themselves on refusing advertising copy of patent medicines, tobacco, etc. Well and good! But they accept even worse copy—advertisements of worthless and quacky appliances, cards of "professors" of every useless thing under the sun, and the fake systems galore. In some ways the worst kind of advertising is that of the by-mail systems for making super-men of failures and lazy young chaps who are hunting some royal road to wealth by a short cut in which ability and hard work cut little of a figure. We have met some of these cocky young chaps who have taken "a course" in one of these systems for breeding success in life, and it takes about a year extra of hard knocks to hammer a little sense into them—one year longer than with the average young chap who has not taken "the course." It is deplorable that any publication should be allowed to exploit the young in this way.

Best Current Medical Thought

The Origin of the Original Syndrome

Charlton Briscoe *(The Lancet,* Dec., 1921,) in his work on the mechanism of lung expansion and the action of the accessory muscles concerned in respiration, has come upon facts which seem to bear a definite relation to the origin of the anginal syndrome.

Briefly, these facts are as follows: Overfatigued muscles give rise to referred pain in distant areas. The upper respiratory mechanism is exceedingly active under the same conditions in which attacks of angina pectoris occur, and stress of this nature affords a better explanation for nocturnal attacks than does cardiac strain.

The respiratory muscles of this region, when hypersensitive, are the last structures in the segment to lose local tenderness and the faculty of producing referred pains by pressure. When these muscles are hypersensitive and subjected to pressure the areas to which pain is referred correspond to those similarly affected in angina pectoris, and are frequently recognized.

The author has demonstrated a phenomenon which offers an explanation for the warning and sequence of pain in angina pectoris. This is dependent upon irritation of one of the expiratory muscles involved, and results in marked thoracic elevation.

Treatment by alleviating the stress of these muscles has frequently—not always—been effective in relieving the pain *without* other treatment.

Two attacks of angina pectoris have been observed as the result of irritation of the respiratory muscles.

The phenomena generally which accompany an attack of angina pectoris can equally well be explained on a respiratory hypothesis as on one of vascular origin. It is of further significance that the age incidence of angina pectoris corresponds wth that of ossification of the ribs and cartilages—a source of increased difficulty in respiration.

Stricture of the Urethra in Women

Wm. E. Stevens *(Cal. State Jour. of Med.,* Feb., 1922), says: Stricture of the urethra in women is a condition which is very often overlooked, although it may be responsible for marked functional and organic disorders in the genito-urinary tract of this sex. Herman, of London, following the examination of 55 women without symptoms, concluded that the normal size of the female urethra is F 29, a little less than 10 millimeters. Van de Warker expressed the opinion that a urethra from F 23 to F 28 should be considered normal. Examination of 114 patients at the Stanford Women's Clinic disclosed the fact that only 18 or about 16 per cent. had never suffered from symptoms referable to the urinary tract. Following urethral calibration in these 18 cases, the author found the average size of their urethra to be F 26 or a little less than 9 millimeters. As to symptoms, frequent urination is the most common. It occurs in over 85 per cent. of the author's clinic and private cases. Subjective symptomatology was not taken into consideration in the patients confined in the detention ward of the San Francisco Hospital, as many of these deny disability, hoping to be released as soon as possible. Next to this symptom, pain referred to the urethral or bladder regions is the most prominent symptom. This symptom occurs in 64 per cent. of the cases. Burning or smarting are present in 26 per cent., urgency in five per cent., and difficulty, constant desire to urinate, partial incontinence, dribbling and retention of urine, were each present in two and a half per cent. of the patients. Residual urine is seldom found except in the presence of very tight strictures. The diagnosis is best made by means of the olive-tipped bougie. A urethratome or sound is much less reliable, as stricture usually yields to slight pressure, and consequently higher readings result from use of the latter instruments. The majority of urethral strictures should be treated by means of gradual dilation, absorption of the constricting exudate being best promoted by this procedure.

His conclusions are as follows:

Stricture of the female urethra is relatively common, and consequently calibration of this organ should be part of the urological examination of every woman and child complaining of symptoms referable to the genito-urinary tract.

Strictures of the female urethra respond readily to proper treatment, and their early detection will prevent pathological lesions of the upper urinary tract secondary to this condition.

Curettage and the Treatment of Uterine Hemorrhage

Beckwith Whitehouse *(British Med. Jour.,* Dec., 1921.) groups cases of pathological uterine hemorrhage under one of the following headings:

(1) Menorrhagia, a term limited to excessive hemorrhage relating simply to the quantity of blood lost at a menstrual period.

(2) Menostaxis, denoting excessive menstruation as regards duration of the flow, the discharge consisting chiefly of the secretion of the uterine glands.

(3) Epimenorrheo, signifying too frequent menstruation, in other words, an alteration of rhythm.

(4) Metrostaxis, denoting uterine hemorrhage apart from and having no relation wtih menstrual bleeding.

It includes not only all hemorrhages before puberty and after the menopause, but also all irregular bleeding during a woman's active sexual life.

This classification the writer has found very useful in practice, as it divides one's cases into well-defined groups, and affords a basis for investigation and treatment along rational pathological lines.

Whitehouse repeats his protest against indiscriminate curetting for all cases of obscure uterine hemorrhage. The operation may do good, but the chances are equally against it if the cause of bleeding is not directly dependent upon pregnancy.

As a diagnostic procedure, however, curettage is of

(continued one leaf over.)

Constipation in Young Girls and Women---

especially those who spend much time indoors engaged in sedentary pursuits—is almost invariably attended by a retention of waste and toxic substances. Sooner or later these make their way from the bowel into the general system and give rise to a host of autotoxic ills.

Correction of this condition is imperative, and the safest, simplest and most effective remedy for the purpose is

INTEROL

Directions:

To relieve the constipation of young girls and women, give two to four teaspoonfuls of INTEROL morning and night, increasing or decreasing the quantity as conditions require. As the bowels yield to the action of INTEROL, gradually cut down the dose to the least amount that—taken at bedtime—will assure a daily evacuation.

a pure mineral oil of the proper density and viscosity to assure satisfactory lubrication of the intestinal canal, and thus relieve and correct bowel inactivity without the usual disagreeable effects of cathartics as commonly employed.

Besides lubricating the canal, INTEROL renders the feces soft and plastic, thereby promoting their easy passage and evacuation with gratifying freedom from discomfort and distress.

It would indeed be difficult to suggest any more serviceable and agreeable medium for the correction of constipation, with its attending autotoxemic conditions, than INTEROL.

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One can read convincing reasons why ANASARCIN should be employed in strengthening and regulating the heart, overcoming circulatory stasis and bringing about resorption of effused fluid.

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paramount importance, especially when the microscopical appearances of the endometrium are considered in relation to the history of the case and the character of the uterine discharge.

To curette a uterus and throw away the curettings is comparable to treating hemoptysis without examining the sputum.

Hemorrhage from the uterus is a symptom of such diverse conditions involving the whole realm of medicine that no one remedy such as curettage can ever be expected to prove effective in all cases.

Radium is no doubt a valuable agent for controlling uterine hemorrhage due to ovarian and endometrial inco-ordination. It is also a useful remedy in those cases due to hypertrophy or atrophy of the endometrium.

In checking hemorrhage at puberty and the menopause radium must exert its peripheral action on the ovaries, as the endometrium is inactive from underdevelopment or atrophy respectively.

When uterine hemorrhage is the result of inco-ordination of various hormones, curettage will be but palliative, or will fail completely, unless combined with other therapeutic measures designed to combat the primary cause.

The Hysterical Nature of So-called Pernicious Vomiting of Pregnancy

A. F Hurst *(The Lancet)* believes that pernicious vomiting of pregnancy is always hysterical. He described a case of a patient under his care which makes it possible to prove with certainty that the case was one which would generally be regarded as of the toxemia class.

Clinically the patient was a typical example of severe pernicious vomiting; she vomited constantly whether she took food or starved, her tongue was dry, her pulse rapid as in any case of toxemia vomiting.

Two days before the writer saw her the ammonia index was 28, nearly three times as high as the point which Whitridge Williams regarded as the danger signal. The urine also contained a very large quantity of diacetic acid. Yet relief followed after half an hour's psychotherapy; the vomiting ceased, the pulse rate fell, the ammonia index dropped to normal for pregnant women, the diacetic acid disappeared from the urine, and the patient gained sixteen pounds in weight in four weeks.

It is obvious from this case that no reliance can in the future be placed either on the clinical or the chemical diagnosis of toxemia vomiting of pregnancy. Personally, the writer does not believe that such a condition exists apart from eclampsia and acute yellow atrophy.

The high ammonia index and the great excess of diacetic acid in this patient's urine were clearly not caused by toxemia, but were the result of starvation and dehydration.

It is clear, therefore, that the division into the nervous and toxemic classes is fallacious. All cases are nervous, but the term hysterical should be substituted for nervous, as the condition is typically hysterical, caused by suggestions and curable by psychotherapy.

Alimentary Infections in Chronic Arthritis

N. Mutch *(The Lancet)* gives the following observations made on two hundred cases, half of which were hospital patients and the other half private patients.

Gout, venereal or tuberculous disease of the joints, and all cases of nonarthritis were excluded, but otherwise no selection was exercised.

He finds that the condition of the alimentary tract dominates the outlook in rheumatoid and osteoarthritis.

The general scheme employed in the treatment of the present series of cases was as follows: The entire alimentary tract was surveyed carefully in each case and an estimate formed of the relative degrees of septic absorption occurring at the various levels. The more accessible areas of infection in the jaws, throat and intestines were treated surgically, and all the disorders of the digestive tract which had encouraged the development of chronic infection were dealt with.

Autogenous vaccines proved of great value when used to supplement these measures. They were prepared from infective bacteria of all the principal zones of sepsis. Streptococci obtained from different foci in the same patient usually vary in their cultural characteristics, and each strain was included in the vaccine.

Chronic infection frequently damages the thyroid gland. In the present series minor forms of subthyroidism were very common, while well-defined myxedema or goiters of considerable size were seen in 14 per cent. of the cases.

There is an intimate association between immunity reactions and the functions of the thyroid gland. The dry extract of the thyroid was given in all such cases with great benefit to the joints. In the present series of cases, which have been followed for varying periods up to nine years, 89 per cent. show very marked improvement or complete arrest. If it had been possible to exclude those cases in which circumstances such as age, temperament, and position in life prevented the full use of radical methods the results would have been still more encouraging.

Some Varieties of Traumatic and Toxic Ulnar Neuritis

E. Farquhar Buzzard observes in a number of cases which suggests that the ulnar nerve is particularly prone to disturbances of function on what appear to be at first very slight provocations.

Looking for a common factor in the various groups which he outlines one is struck by the fact that in the majority of cases the ulnar nerve is unprotected by any bony parapet at the end of the elbow, or so badly protected that during extension and flexion of that joint it is apt to slip in and out of its proper position. During flexion especially it may lie exposed to friction and pressure on the internal condyle.

A consideration of many cases seems to justify the conclusion that movement, especially of a strenuous and frequently repeated character, is an important factor in the production of an interstitial neuritis.

This moving contact with a bony surface is probably an important factor in producing the symptoms associated with a cervical rib, although so far as the writer knows it has not been shown that in the latter case the nervous tissue becomes surrounded by a definite thickening of connective tissue. In the case of the ulnar nerve, however, the nervous tissue is constantly exposed to minor injuries, and the neuromatous condition so often found must be ascribed to chronic inflammation of traumatic origin.

In one group of cases one may find an additional etiological factor in the form of some toxic agent. The writer has seen fairly good results from merely dividing the connective tissue strands by means of longitudinal incisions, but he is still more impressed with the advantages of placing the nerve in front of the joint and so insuring its complete relaxation. He suggests that possibly a combination of both methods may be the ideal treatment.

"There is No Art to Read the Mind's Construction in the Face."

—Shakespeare

FOR the same reason it is quite impossible to gauge the potentialities for harm in a few cups of coffee.

Sometimes they do—and sometimes they don't—manifest their full capacity for serious forms of physiological mischief.

A patient doesn't know—and perhaps a doctor cannot tell—except by testing the matter clinically—whether it's coffee, or something else, that is causing tachycardia, nervous irritability, insomnia, indigestion or headaches.

There's one way to find out, however—stop the coffee for a week, and have him drink Instant Postum instead.

Postum is an absolutely pure cereal beverage. It is scientifically prepared in a modern, sanitary plant, and serves every purpose of a hot meal-time drink.

With thousands of people, Postum is as satisfying in flavor as the average coffee—undoubtedly one of the reasons for its increasing popularity.

Doctor, why not suggest Instant Postum to your next neurasthenic, and see if it does not help your general sedative and reconstructive treatment?

Samples of Instant Postum for individual and clinical test will be sent to any physician who will write for them on his office stationery.

Postum Cereal Company, Inc.,
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Cancer of the Liver and Gall Bladder—Goldstein

(Continued from page 580)

used, this test can be carried out in the average clinic with ease.

(3) In a series of fifty (50) cases we found that in a general way a delay in the appearance time of the dye is proportionate to a decrease in the dye output.

(4) In fifteen normal cases the average appearance time of the maximum color was 11.6 minutes. In ten cases with grossly pathological livers it was 23.2 min. In twenty-five cases with moderate and slight liver disease there was a proportionate delay in the appearance time as a rule. The appearance time of the maximum color is of more significance than that of the first faint pink color.

(5) The dye output in two hours in the normal series averaged 22.4 mgms.; in the grossly pathological cases it averaged but 2.7 mgms.

(6) In grossly pathological livers the maximum color is twice as long in making its appearance as in normal cases (23.2 min.; 11.6 min.), but the dye output in grossly path. livers averaged but one-eighth that for normal cases (2.7 mgms.; 22.4 mgms.). The dye output is of more significance than the appearance time of the dye.

(7) 30-35 per cent. of the dye was recovered in the feces in forty-eight hours in normal cases by the older method. We recovered 15 per cent. of the dye in two hours with the duodenal tube in normal cases.

(8) In the normal cases the twenty-four-hour urine following the injection was free from dye.

(9) We suspect that the output of dye will vary within normal limits with the age, the younger the individual, the greater the dye output.

(10) When a larger number of cases are accumulated and our normal standards become more definite, this test should be comparable with the sulphonaphthalein kidney function test, for the liver reserve is probably no greater than that of the kidney when their relative size and importance in the body economy are taken into consideration.

(11) Finally we believe that in this test we have a method of measuring the functional capacity of the liver when it is clinically negative to other methods of examination. It is in this group of cases particularly that the quantitative two-hour output will be of particular significance.

Garcia Guijarro (Siglo Médico, Madrid, February 5, 1921, *68,* No. 3504, p. 124) confirms the results of others, that the alimentary tests of liver functioning are not very reliable, on account of the complexity of the intermediary metabolism. He regards the amount of *fibrinogen* in the blood as a fairly reliable index of the functional capacity of the liver, and also as determination of the *bile salts* and *pigments* in the blood, urine and stools. The *lipase* in the blood is an unreliable indicator of the sufficiency of the liver cells.

Sir John Moore, President of the Royal Academy of Medicine in Ireland (Dublin Jour. of Med. Science, March, 1921, 4th series, No. 13, p. 97), reported a case of very rapidly developing cancer of the liver in a man, aged 38 years, in the Epidemic Wing of the Meath Hospital. *No jaundice* was present. Nodular masses were found scattered throughout the lower lobe of the right lung. The liver was more than twice the normal size; its texture was dense and firm; the surface was nodular in places. The liver weighed 170 ounces. The gall-bladder was normal. Budd ("Diseases of the Liver," 3rd Ed., p. 407), states that a cancerous liver has been known to weigh 384 ounces, or about seven times the normal weight.

The *absence* of *jaundice* in rapid cases is probably due to alcholia, caused by the extensive destruction of the liver cells. *Frerichs* collected 52 cases of *cancer of the liver* in a series of 91, that died without ever having been jaundiced. *Jaundice,* therefore, is *not* so commonly present in hepatic cancer as is usually supposed.

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(Continued one leaf over)

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Moisture	2.50
MINERAL SALTS	8.41
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Calories (per pound)	1480.46

It will be our pleasure to supply you with a large package of Kellogg's Bran, cooked and krumbled, without the slightest obligation on your part. Kindly send us a request card today.

Kellogg's *Look for this signature W. K. Kellogg*

the original BRAN ~ *cooked and krumbled*

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Benign Stupors

By the late August Hoch, M.D., formerly Director of the Psychiatric Institute of the New York State Hospitals and Professor of Psychiatry, Cornell University Medical College, New York. Edited by John T. MacCurdy, M.D. Cloth, 284 pages. The Macmillan Company, New York City. Price, $2.50.

This book presents a study of manic-depressive reaction types marked by stupor, and an attempt is made to separate the benign from the malignant stupors, and with a large degree of success. Disagreeing with some current views on the functional psychoses, Dr. Hoch, with infinite patience, undertook a rather speculative line of psychological research, finally reaching certain clinical conclusions that seem to be justified. At all events, the book opens up a fertile field for further psychiatric research and in the hope that the theories set forth may lead to practical results in the treatment of borderland insanities, apathy, mutism, catalepsy and negativism.—T. S. B.

Book Reviews

Management of the Sick Infant

By Langley Porter, B.S., M.D., M.R.C.S. (Eng.), L.R.C.P. (Lond.), Professor of Clinical Pediatrics, University of California Medical School; Visiting Physician, San Francisco Children's Hospital; Consulting Pediatrician, Babies' Hospital, Oakland, Consulting Pediatrician, Mary's Help Hospital, San Francisco and William E. Carter, M.D., Assistant in Pediatrics and Chief of Out Patient Department, University of California Medical School; Atending Physician, San Francisco Hospital, San Francisco. Illustrated. St. Louis. V. S. Mosby Company, 1922. $7.50.

Diseases of infants, like their bodies and minds, differ radically from those of adults. Such being the case, it is rather out of the ordinary that "The writers . . . have been unable to find any text book in the English language which deals exclusively with the peculiarities of disease as it occurs in infants." Thus impressed, they have written this text on the Management of the Sick Infant. The book has been given serious attention, is well written and excellently compiled. There is, no doubt, a need for such a commendable work, and both the pediatrician and general practitioner can make good use of it.

The Life of Jacob Henle

By Victor Robinson, M.D., Editor of *Medical Life*, 12 Mount Morris Park West, New York City, and published there. Cloth, illustrated 117 pages, edition very limited. Price, $3.00.

This is the first biography in English covering the life and attainments of Henle, whose career was most interesting and who added much to medical science, more especially anatomy. The book is interesting and especially so from its intimate views of medical life in the old days of German power, for Henle was, by turns, a state teacher and a state prisoner, and he was a strange mixture of agitator and scientist. The book is a worthy one, recording the career of a strange character who really did much, in his day, to make medicine an exact science.

Radium Therapy

By Frank Edward Simpson, A.B., M.D., Professor of Dermatology, Chicago Policlinic; Adjunct Clinical Professor of Dermatology, Northwestern University Medical School; Attending Dermatologist to Mercy Hospital, Alexian Brothers Hospital, Henrotin Hospital, etc.; Former President American Radium Society; Former Vice-Chairman, Section of Dermatology and Syphilology, American Medical Association; Director of the Frank Edward Simpson Radium Institute. With 166 original engravings. St. Louis. C. V. Mosby Company, 1922. $7.00.

Radium is a new therapeutic agency of positive efficiency. Whatever the claims of extremists; whether it cures, whether it replaces surgery or merely supplements

(*continued one leaf over.*)

If you have not received your copy of the last Breon's Medical Gleanings, a magazine devoted to Intravenous Therapeutics, write to the nearest Breon Branch and a copy will be sent to you at once.

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it, its action, its influence on tissues is prompt and powerful, and does, should and will occupy a prominent position in the armamentarium of modern medicine. There are specialists well versed in radium therapy, the average physician though knows little, often very little, of its physical characteristics and therapeutic properties. It is because of this that there is a need of good texts on radium therapy, and it is because this need is excellently supplied in this book that we unhesitatingly recommend it. It is well compiled, well written and up to date, and should occupy a worthy position in the physician's library.

Abdominal Pain

By Prof. Dr. Norbert Ortner Chief of the Second Medical Clinic at the University of Vienna. Translated into English by William A. Brams, M.D., and Dr. Alfred P. Luger. Cloth, 362 pages. The Rebman Company, 141-145 W. 36th Street, New York City.

It needs no word of ours to commend to professional attention the writings of Ortner. This work on abdominal pain is thorough and painstaking and is of the utmost value in diagnosis, especially in the surgical field. The work is of very direct clinical value and the translators have conferred a favor on the English reader in making the teachings of Ortner available to him.

Bacterial Irritants in Hay Fever

That pollen irritation favors the development of pyogenic bacteria in the respiratory tract and that the bacterial irritation which develops becomes a primary factor in hay fever is now gaining recognition.

Dr. William Scheppegrell, president American Hay Fever Preventive Association, has just published a book on the subject of "Hay Fever and Asthma," in which he states:

"If the patient applies for treatment during an attack of hay fever, the pollen extracts are usually ineffective, and a vaccine should be used, these being injected at intervals of one or two days until the severity of the attack subsides. . . .

"Our reason for using the vaccine during severe paroxysms is that at this time the patient is suffering, not only from the effects of the pollen protein, but also from the great increase in the pathogenic micro-organisms resulting from the lowered resistance of the respiratory membranes. The use of vaccine therapy at this state is therefore logical, and has given us satisfactory results. . . .

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It will be observed that the formula employed by Dr. Scheppegrell is for all practical purposes identical with Sherman's No. 36.

In this connection it is interesting to note that Dr. G .H. Sherman was the first physician to call attention to the role played by pathogenic micro-organisms in hay fever and to utilize therapeutic immunization with bacterial vaccines in this disease, to control the complicating infection. And as Dr. Sherman says, in his book, *Vaccine Therapy in General Practice*, "We know that pathogenic bacteria are always liable to invade accessible tissues where normal resistance has been lowered by irritants. Pneumococci, streptococci, staphylococci and other organisms are found on the mucous

(*continued one leaf over.*)

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membrane of the nose and throat of most normal individuals and in hay fever cases these organisms are found in abundance. That these organisms are important complicating factors and are responsible for much of the irritation and most of the fever is quite apparent.

Here the immunizing influence of bacterial vaccines is of real value in the treatment of hay fever. By this means sufficient resistance to these pyogenic organisms is developed to prevent them from becoming infective agents following the pollen irritation. The result is that the patient either goes on to complete recovery or the disease runs a modified course, the pollen irritation being the only factor left, which causes comparatively little distress.

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(Helpful Points continued one leaf over.)

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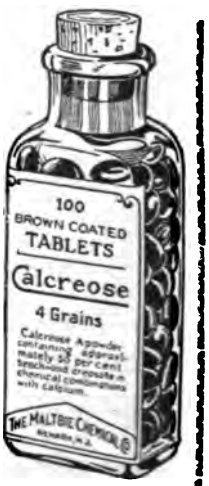
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(Continued one leaf over)

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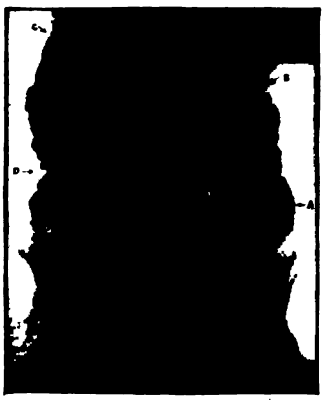
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(Helpful Points continued one leaf over.)



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A supply of Dioxogen in the workshop clinic, and a bottle in the first-aid chest or surgical grip gives the attending physician the gratifying assurance that he is prepared to meet any demand for antiseptic treatment.

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Clinicians generally have found that high-blood pressure means something. It is sometimes the first indication of coming serious trouble. Consequently, the physician who makes it a habit, as well as a rule, to carefully take blood-pressure readings in such cases as suggest to him the possibility of hypertension, is often able to save his patients difficulty or even fatal disease.

When suitable remedies are to be administered to overcome the condition and prevent its effects, Pulvoid's Natrium Compound seems to be a preparation of choice. It is composed of tested and proven agents whose action is at the same time safe and sure. It can be given without disturbing the stomach or affecting renal function, and what is most important, its use can be continued in suitable dosage over long periods of time, not only to bring down the blood pressure, but to keep it down.

An interesting booklet on blood pressure, what it means, how it is produced and how it should be treated, will be sent to AMERICAN PHYSICIAN readers. Address: The Drug Products Co., Inc., 150 Meadow street, Long Island City, N. Y.

Yeastone for Medicinal Purposes

Yeastone—the purified, active principles and vitamines of yeast—is given in place of yeast for medicinal purposes. It keeps well, is pleasant to take and is a reliable product. Made by Merck & Co., 45 Park Place, New York.

Address them for samples and literature, which will be sent gladly to AMERICAN PHYSICIAN readers.

A Standing Invitation

The various departments of the Mulford pharmaceutical laboratories are gradually being transferred to the Mulford Building, at Broad and Wallace streets, Philadelphia, where the general offices and stock rooms have been located for some time.

Within the next few months it is planned that all the pharmaceutical and executive activities shall be conducted under one roof, with the operation of the biological work at the Glenolden Laboratories as a

(*continued one leaf over.*)

"Success is Measured by the Difference Between *Does* and *Does Not*"

ALKALOL is therapeutically successful because—

IT DOES	IT DOES NOT
Feed depleted mucous membrane cells with physiologically needed salts.	Overstimulate secretion or relax tissue, being hypotonic it reverses osmotic action.
Possess the indicated salinity and proper alkalinity.	Resemble the many so-called antiseptic solutions.
Act in a soothing and healing way upon irritated or inflamed mucous membrane or skin.	

ALKALOL IS SUCCESSFUL

in the ear, eye, nose, throat, urethra, bladder, vagina; as a douche, irrigating solution or wet dressing on ulcers, dermatitis, cuts, burns; internally as an antacid.

Sample and literature sent on request

THE ALKALOL COMPANY **Taunton, Mass.**

Stomachic Rebellion

is **not** in the clinical picture when you use BENZYLETS.

That is an outstanding consistently constant clinical fact when these gelatin globules each carrying five minims of **medicinally pure** benzyl benzoate are used. At your druggist's in 24's.

BENZYLETS—

non-narcotic, non-toxic analgesic-antispasmodic in pain and spasm of unstriped muscles

Sharp & Dohme
Chemists since '60

TAUROCOL
TABLETS
(TOROCOL)

A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

FOR

Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS
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With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.
DETROIT, MICH.

Laboratories Clin

Supplies in therapeutically active form Phosphorus, Arsenic and Strychnine

INJECTION CLIN
(Strychno-Phospharsinee)

Reconstructive, Tonic, Restorative. For intramuscular or subcutaneous injection.

In boxes of 6 and 12 ampoules. Also in solution for administration per os.

Literature and samples on request.

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PARIS FRANCE

PARIS, FRANCE

Mentioning The American Physician Insures Prompt, Careful Service

History of Dental Anaesthetics—No. 2

1846—"Letheon"

IN September, 1846, Dr. W. T. G. Morton, a former pupil of Dr. Horace G. Wells in Dentistry, went to a chemist in Boston, Charles T. Jackson, to learn how to make Nitrous Oxide Gas.

On the advice of Jackson, he purchased some **Sulphuric Ether** and on September 30th, 1846, tried it on a boy named Ebon Frost. Following up the success of this operation Morton and Jackson experimented further with Ether, resulting in their patenting the discovery of anaesthetic effects of Ether, the patents being issued to Dr. Morton, who then called his product "Letheon."

Anaesthesia is the name suggested by Oliver Wendell Holmes to Dr. Morton, to describe the condition produced by the inhalation of Sulphuric Ether.

'Tis a far cry, indeed, from the anaesthesia as produced by this anaesthetic to that as now induced by the Conduction method with





Dr. R. B. Waite's

Antiseptic Local Anaesthetic

(with Procaine 2%, or with Cocaine 1%)

The quality and duration of the anaesthesia are such that the most complicated and extensive operations may be performed without the patient experiencing any pain; the anaesthesia which persists long after the operation relieves any post-operative pains. The factor of Safety must also be considered, for there has never been a fatality from its use during thirty years that it has been used in every country in the world, in millions of operations.

IN BOTTLES
1 oz. 2 oz.
IN AMPULES
1½cc; 2½cc; 3cc

Check and Mail This Coupon Now!

☐ **Please send sample box of ampules of Dr. R. B. Waite's Local Anaesthetic Free.**
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Name _____

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THE ANTIDOLOR MFG. CO.
32 Main St., Springville, N. Y.

separate unit.

The plan of the building, whereby each floor has an area of approximately one acre, offers wonderful facilities for an economical and practical layout of the various departments. The space devoted to executive offices is one-half acre in extent. The finished stock room is one acre, while another entire floor will be devoted to the manufacture of fluid preparations.

Up-to-date mechanical means have been installed for the handling of the products in course of manufacture, finishing and shipping, all formulated with the idea of improving the Mulford service.

Any of our readers visiting Philadelphia would do well to reserve the time necessary for a visit to the Mulford Building; it will prove not only a revelation, but an inspiration.

Natural Way to Relieve Constipation

It is stated by medical authorities that if the use of bran were to become general—as general as is the eating of white bread—inside of twenty-five years a stronger and more vigorous race of mankind would result. Not only this, but human life would be increased from ten to fifteen years.

It has been found that Kellogg's Bran, cooked and krumbled, through its mineral salts and its ability to absorb water, giving bulk and moisture, is nature's way of assisting in perfect elimination of waste matter. By the use of bran the system is rid of these waste materials, quickly and naturally. Bran will permanently relieve constipation, if it is eaten regularly; it is invaluable as a constipation relief for the aged and for the bedridden.

You will find Kellogg's Bran, cooked and krumbled, a very easy and delightful way of administering this very necessary dietary element. With this product it is no longer difficult to get patients to carry out your instructions. If it's Kellogg's Bran they will enjoy it. A large package will be sent complimentary to AMERICAN PHYSICIAN readers. Address: Kellogg Toasted Corn Flake Co., Battle Creek, Mich.

Where Liquid Petrolatum is Indicated

A noted authority, whose observations have covered hundreds of cases, states that aside from routine measures, the regular use of liquid petrolatum is the most effective means of combating incompetency of the ileocecal valve. Medicinal laxatives increase the antiperistalsis by which the reflux from the colon into the small intestine is increased. Liquid petrolatum increases the motility of the small intestine, but does not increase antiperistalsis.

The correct viscosity, high uniform quality and absolute purity of Nujol make it the dependable aid of physicians in the host of conditions where liquid petrolatum is indicated.

Sample and authoritative literature dealing with the general and special uses of Nujol will be sent gratis on request: Address: Nujol Laboratories, Standard Oil Co. (New Jersey), Room 765, 44 Beaver street, New York.

A Boon to Suffering Humanity

It has been said that 30% of the entire population of the United States is afflicted to some degree with spinal trouble. Of this percentage it is earnestly believed 60% could be cured by the use of the Philo Burt Method of Spinal Correction; and 90% of cures could be effected in childhood by its use. There are records of hundreds of cases showing splendid recovery of children who otherwise would have been doomed to a hopeless, helpless life as a hunchback or cripple.

(*continued one leaf over.*)

GONOSAN
"RIEDEL"

To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

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LISTERS DIABETIC FLOUR

DIABETES Strictly Starch-free. Produces Bread, Muffins, Pastry that makes the distressing features of Grow Less and Less

Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85
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COMBINES the delightful qualities of effervescence with the well-known digestive properties of Peptenzyme.

The powerful and effective action of Peptenzyme, supplemented with the tonic and refreshing effects of effervescence, thus insures both

PERMANENT BENEFIT AND PROMPT RELIEF

in gastralgia, nervous and fermentative dyspepsia, flatulence, atonic indigestion, and to relieve the gaseous fermentation that usually causes so much discomfort in digestive disorders.

It is palatable to the nth degree and gives the physician a cooling and refreshing beverage, free from any hint of medicine, yet pregnant with therapeutic value.

Converts the Distresses of Indigestion into a Smile
SOMETHING NEW
PEPTENZYME EFFERVESCENT GRANULES
REED & CARNRICK
JERSEY CITY, N.J.

A Stand-By in Uterine Troubles

VIBURNO

(BEACH)

The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles
Sample and Formula on Request
THE VIBURNO COMPANY
116 Maiden Lane, New York

Sal Hepatica

THE STANDARD SALINE LAXATIVE

Samples on request

Bristol-Myers Co.
NEW YORK



The following is what one physician has to say regarding a case of "Lordosis," which he relieved: "The little Pelham child has made a wonderful improvement since she commenced to wear the Philo Burt Appliance. She is a very nervous, active child, and before she wore the appliance could not stand on her feet alone and had to be wheeled in a chair. Now she runs and plays like the rest of the children and enjoys life. The Philo Burt Appliance is certainly a great boon to suffering humanity."

The Philo Burt Co., 115-20 Odd Fellows' Temple, Jamestown, N. Y., will make a spinal appliance to your order for any case and allow a 30-day trial. Write to them for full information, prices, Physician's Portfolio and their plan of co-operation with the physician.

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When intestinal troubles are so prevalent, accompanied by the usual manifestations, abdominal cramps, etc., nothing seems to relieve this distressing condition so promptly as Hayden's Viburnum Compound, a true and safe anti-spasmodic. Dose: Mix two teaspoonfuls in seven of *boiling* water, slightly sweetened, and drink as hot as possible. Repeat every half-hour until relief is obtained. Liberal samples of H. V. C. will be sent to AMERICAN PHYSICIAN readers on request. Address: New York Pharmaceutical Co., Bedford Springs, Bedford, Mass.

(Our Advertising Standards one leaf over.)



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A strictly private and ethical Home Retreat for unmarried girls and women during pregnancy and confinement, with best medical care, nursing and protection. A home found for the infant by adoption if desired. All publicity avoided. Prices reasonable. For particulars, prices and terms, address WOODLAWN, OWEGO, Tioga Co., N. Y.



MORPHINE
NEW HOME TREATMENT

For all Drug and Alcoholic Addictions—Doctor: treat these cases at home privately yourself. No pain, very little discomfort. Sanitarium maintained for those who desire. Enclose stamp for full information.
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While not offered as a specific, extended experience has shown that the following prescription is one of the most effective the physician can employ for the relief of the symptoms of hay fever:

℞ Adrenalin Chlor. m. XV
Pond's Extract dr. I to fl
Aquae destil. q. s. ad. oz. I
M et Sig. Use as a spray every hour or two.

POND'S EXTRACT CO., NEW YORK AND LONDON

Hay Fever

REGULIN

Presents a new principle in the conquest of chronic constipation that of treating the bowel contents rather than the bowels themselves. Corrects the physical condition of the intestinal mass — restores its normal bulk and softness—and the bowels resume their natural functioning. REGULIN is a true bowel corrective.

You can buy with confidence—See "Service Guarantee to *Readers*" on page 614

HAYFEVER

Rhinol for Hayfever and all affections of the Nose and Throat.

HAYFEVER

Rhinol a reliable remedy.

Dr. A. Z. Hall, of Eaton, Colorado, says in a quite recent letter:

> **"I believe that you have in Rhinol the most superior remedy on the market for Hayfever.**
>
> **Please send me 6 complete outfits C. O. D."**

Use Rhinol one week before your attack and you will be free from all trouble.

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SAFETY FIRST!

When in the vicinity of POISON OAK-IVY-SUMAC or any plants that poison by contact, apply CAMPHO-PHENIQUE (Liquid) to parts exposed.

LAST AND

In cases of poisoning apply every hour and sprinkle with CAMPHO-PHENIQUE Powder. A small bottle and box (30c) are easily carried.

ALL THE TIME

Remember that for MOSQUITO BITES and INSECT STINGS, CAMPHO-PHENIQUE gives prompt and permanent relief.

Samples and Literature on request.

CAMPHO-PHENIQUE LIQUID, small size 30c, large size $1.20
CAMPHO-PHENIQUE POWDER, small size 30c, large size 75c

Campho-Phenique Co., St. Louis, Mo., U. S. A.

Amenorrhoea
Dysmenorrhoea
and other disturbances of the menstrual function call for the true active principle of Parsley:

APIOLINE
(Chapoteaut)

It Secures Results
by acting directly upon the uterine nerve endings and producing ovarian hyperemia, but without disturbing gastric or renal functions.
Avoid impure or unreliable substitutes.
Prescribe original vials of 24 capsules.

Laboratory of
Dr. Ph. Chapelle, New York-Paris
Physicians' sample and literature on request to
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90 Beekman Street, New York
Canada: Lymans Limited, Montreal

AFSAL $CH_2(C_6H_3\,OC_2H_3O\,COOH)_2$ Diacetyl Methylene-disalicylic Acid. AN UNQUESTIONABLE REMEDY FOR RHEUMATISM.
Price, 75 cents per Box.

BEFSAL $C_{28}H_{26}O_{10}$ Dibenzyldiethylmethylenedisalicylic Dipyruvic (Cinchoninic) Acid. AN EFFICIENT AGENT FOR THE DESTRUCTION OF THE RHEUMATIC POISON AND A SOLVENT OF URATIC DEPOSITS.
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CREASEP $C_{44}H_{46}O_{10}I_2$ Diacet Benzylidenedibenzyldiethyl Methylenediiododiguaiacol. Contains 25% of Iodine, VALUABLE ALTERATIVE AND ANTISEPTIC. ESPECIALLY USEFUL IN INFLUENZA, PNEUMONIA, BRONCHITIS AND PULMONARY TUBERCULOSIS.
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IODOMER $(I.C_{10}H_4O_4)_2Hg$ Mercury-Diiododiaryl. Holds 25% Mercury and 29% Iodine in organic combination susceptible of circulating in fluids of body to react on the spirochetes of syphilis. AN ALTERATIVE OF MARKED VALUE. **Price, $1.00 per Box.**

PYR-AZO-PHEN $C_{28}H_{21}N_4O_5$ Diethyl Benzylidene Hydroxyazo Benzol Methylene Disalicylic Dicinchoninic Acid. FOR NEURITIS OF GOUTY ORIGIN AND FOR RHEUMATISM AND GOUT.
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ARSAMINE $AsC_{10}H_{13}O_4)_2$ DIARYL-DIARSONATE. CHEMICALLY ANALOGOUS TO SALVARSAN, BUT CAPABLE OF ADMINISTRATION VIA THE STOMACH. **Price, $1.00 per Box of 30 Capsules of 2½ Grains Each.**

DR. S. LEWIS SUMMERS
Producer of
Synthetic Organic Chemical Compounds
Fort Washington, Penna.

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A CONSTRUCTIVE MARKET

A Convenient Place Where You Can Deal With Confidence; and get information—commercial, scientific, general—helpful to you and reliable.
We believe the right kind of medical journal advertising is truly useful to the medical profession. We seek to promote and extend that usefulness.

Our Advertising Standards

Advertisements must give honest service to our readers and their patients is the *basic principle* for these standards and for the conduct of THE AMERICAN PHYSICIAN'S advertising pages.

Our attitude in applying these standards is not one of narrow technicality but of *practical service.*

Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

Fraudulent pharmaceuticals; those making dishonest claims.

Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

Pharmaceuticals and other mixtures for internal use and containing narcotics or other habit-inducing drugs in quantities sufficient to promote their improper repetition on prescription (chloral-bearing proprietaries, etc.).

Potent pharmaceuticals which justly merit professional disapproval because of their lay advertising or *manifestly* unethical exploitation.

Financial advertisements that claim returns not compatible with conservative investment. Only *conservative* investments are advertised.

Further - - -

Advertising copy is subject to revision by the editorial staff.

THE AMERICAN PHYSICIAN agrees heartily with the *principles* of the Council on Pharmacy and Chemistry of the American Medical Association and we exclude from our advertising pages such pharmaceutical products as they have definitely shown to be unworthy of professional confidence and the manufacturers of which have not removed the cause of objection; but we do not accept such findings as are based on academic data without due recognition of general clinical experience.

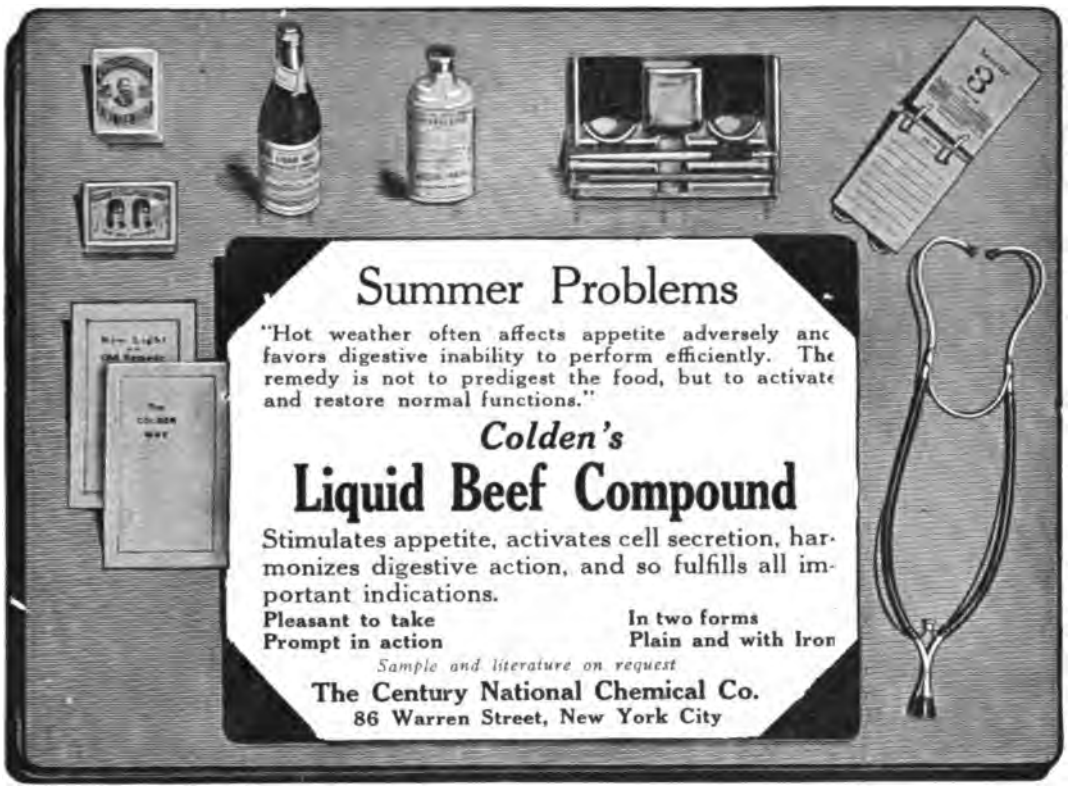
Concerning formulæ, THE AMERICAN PHYSICIAN is urging pharmaceutical manufacturers to give full therapeutic data regarding formulæ, stating quantitatively active medicinal content, in order that physicians may intelligently prescribe. We do not accept advertising of secret pharmaceuticals.

But We do not Decline - - -

Advertising of original drugs, compounds or preparations imitated in current editions of the U. S. Pharmacopœia or National Formulary (except habit-inducing preparations); new products that seem to be honest and valuable, but which have not been reported upon by the Council on Pharmacy and Chemistry, or similar products whose manufacturers have not yet submitted the same to them for approval or rejection. We use our own judgment in these cases, but will always consider proper charges against this class of remedies.

Preparations containing a limited number of drugs in admin-

(Continued one leaf over)





Pneumo-Phthysine

A glance at the formula of PNEUMO-PHTHYSINE will at once suggest its mode of action, as also the numerous indications for its clinical application. The antibacterial properties of all the drugs contained in PNEUMO-PHTHYSINE are well established. In addition, guaiacol and quinine tend to reduce fever temperature; methyl salicylate lessens pain; quinine also promotes healing.

PNEUMO-PHTHYSINE is indicated in all localized and painful inflammatory conditions.

The fact that all the active drugs contained in PNEUMO-PHTHYSINE are readily absorbed through the skin; that they are taken up into the circulation and exert their characteristic effects, both locally and sytematically, will be discussed in detail in the Fall, 1922, issue of Endermic Medication, which will probably appear early in September.

Ask for your copy now.

Pneumo-Phthysine Chemical Co. **Chicago, Ill.**

Clinical Evidence



proves the most satisfying results are obtained by prescribing

Pluto Water

in cases of habitual constipation, gout, rheumatism and all cases when a uric acid solvent is desired.



Many practitioners direct convalescent patients to the spring for rest and complete treatment where can be found two well-known members of the American Medical Association with trained assistance.

French Lick Springs Hotel Co.
French Lick, Ind.

Our Advertising Standards

[*Continued over from preceding page*]

ture and in such form as may parallel a prescription written by a qualified physician who is seeking in the proprietary form elegant pharmacy in place of an extempore prescription.

Products composed of minor botanic remedies in adequate dosage, provided these drugs have a real place in medical literature and are well defined in materia medica, since many thousands of physicians esteem them despite pharmacologic data urged against them.

Minor antiseptics, soaps and toilet articles honestly advertised to both physicians and laymen without false or fraudulent statement; honestly advertised mineral waters and minor purgatives, food products, etc.

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WE WILL IMMEDIATELY TAKE THE MATTER UP WITH THE ADVERTISER AND SEE THAT THE ADVERTISER EITHER MAKES GOOD, OR HIS ADVERTISEMENT IS ELIMINATED FROM THE AMERICAN PHYSICIAN'S PAGES.

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Trade Mark Trade Mark

For Men, Women and Children

For Ptosis, Hernia, Obesity, Pregnancy, Relaxed Sacro-Iliac Articulations, High and Low Operations, etc.

Ask for 36 page Descriptive Folder

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Marvel Whirling Spray
MARVEL COMPANY
25 W. 45th Street New York

Outing Infections

are complications that—like specters at the feast—always stand ready to spoil the annual vacation that means so much to those who live and work in the city.

Simple cuts or abrasions, the bites or stings of insects, a severe sunburn, dermititis from poisonous shrubs, are all apt to lead to graver conditions, if neglected or improperly treated.

Medical men who have learned from many gratifying experiences how serviceable

Dioxogen

is, as a non-toxic, non-irritating but thoroughly dependable antiseptic, have no difficulty in promptly relieving the immediate effects of these emergency afflictions of the vacationist and preventing the development of infection.

The large amount of pure uncontaminated oxygen—nature's own antiseptic—which Dioxogen brings directly to the point of injury, in its most active form enables the practitioner to accomplish results in the direction both of healing and of prophylaxis that cannot be expected from germicidal measures of a toxic or irritating character.

At no time of the year does the physician find the special advantages of Dioxogen a greater source of satisfaction than during the Summer and Fall months. A bottle on the surgical dressing table or in the doctor's bag is a bulwark against the many simple but none the less dangerous emergencies that are prone to occur throughout the outdoor season.

Summer Uses of Dioxogen

As an Antiseptic
For cuts, lacerations, abrasions, and all open wounds.

As a Lotion
For ivy poisoning, sunburn, chafes, and skin irritations.

As a Spray and Gargle
For colds, sore throat, eye infections and as a mouth cleanser.

As a Compress
For strains, sprains, contusions and swollen muscles.

As an Internal Remedy
For gastro-intestinal ills, diarrhea, etc., from changes in food and water.

As a Water Purifier
For routine addition to all drinking water used from brooks, springs and wells.

Many a physician has saved an outing from ending badly by his advice to carry a supply of Dioxogen in the first aid kit.

Directions

Locally — A teaspoonful of Dioxogen to five to eight of water makes an ideal antiseptic lotion.

Internally — One half to a teaspoonful of Dioxogen well diluted, stops fermentation, gastric irritation and pain at once.

The Oakland Chemical Co.
59 Fourth Avenue, New York City



ENDO
Specialties
for Direct Medication
by the
Intravenous
Method



THE RATIONALE of INTRAVENOUS IRON THERAPY

The total iron content of the blood in a man weighing 150 lbs. is about 38 grains. Iron deficiency is, therefore, only a matter of a few grains, and does not warrant the giving of large quantities of it.

The trouble is that iron given by the mouth is largely precipitated in the intestines and cast off as iron sulphide in the fecal discharges. There is no absorption to speak of, and the only effects on the patient are indigestion and constipation.

Intravenously administered, one grain of Ferric Dimethylarsenate (Endoferarsan) produces an average increase of 125,000 red corpuscles, with a corresponding rise in the hemoglobin index, improving oxidation, metabolism and general nutrition.

The Endo Intravenous solution of iron and arsenic (Endoferarsan represents arsenic in organic form and iron in true colloidal state, the only state in which iron can be accepted by the blood, in view of the fact that the blood is colloidal and can utilize nothing else for its repair.
Arsenic in organic combination is liberated very slowly, thereby avoiding toxic action and producing prolonged therapeutic effects. Ten or twelve doses at three to four-day intervals is all that is required in the ordinary case of anaemia, chlorosis, cachexia of malaria and carcinoma, debility and slow convalescence.

A new booklet on Intravenous medication will be cheerfully sent to physicians on request.
Obtainable from us direct or through any Retail Druggist or Physicians' Supply House.

Intravenous Products Co. of America, Inc.
121 Madison Avenue, New York City



September THE 1922

AMERICAN PHYSICIAN

(REG. U. S. PAT. OFF.)

"Representative Publication of Physicians in General Practice"

Continuing the Quarter-Century of Distinctive Service of The Medical Council

BOSTON MEDICAL LIBRARY JAN 5 1923

"Nervous Indigestion"; Common-Sense Psychology Needed

PROBLEMS NUMEROUS AND DIFFICULT BECAUSE OF ORGANIC AND NEUROTIC ELEMENTS COMBINED. (page 641)

Diphtheria Control and Prevention

CORRELATING INTERNAL AND PROPHYLACTIC MEDICINE; HARMONIZING EPIDEMIC EXPERIENCES AND STANDING FACTS. (page 637)

Typhoid Fever Diagnosis

SOME ORIGINAL ANGLES WITH SPLENDID RÉSUMÉ OF STANDARD LABORATORY ASPECTS. (page 648)

Tagged, Gagged, Nagged and Dragged

(page 657)

Full Contents on Page 622

2.00 THE YEAR "Most Widely Circulated Medical Monthly" 50c THE COPY

420 Walnut St., Philadelphia, U. S. A.



Rheumatism
Gout
Neuralgia
Neuritis
Sciatica
Lumbago
Migraine

"Twice gives he, who gives promptly"

says a Latin proverb. The remarkably prompt pain and inflammation relief bestowed by ATOPHAN, is truly such a two-fold gift.

What's more, it's rational, safe and reliable relief.

Genuine ATOPHAN is manufactured at our Bloomfield, N. J., plant by a special process, precluding the possibility of even traces of irritating empyreumatic admixtures.

Complimentary Trial Package and Information from

Schering & Glatz, Inc.
150 Maiden Lane **NEW YORK**

REDUCED PRICES

NEODIARSENOL
(Neoarsphenamine)

DIARSENOL (Arsphenamine)		SODIUM DIARSENOL (Sodium Arsphenamine)
0.6 gm.	1.00	0.9 gm.
0.5 gm.	.90	0.75 gm.
0.4 gm.	.80	0.6 gm.
0.3 gm.	.70	0.45 gm.
0.2 gm.	.60	0.3 gm.
0.1 gm.	.50	0.15 gm.

Orders for 50 ampoules—10% discount.
Discount on larger quantities on request

It is with pleasure that we advise you that from this date a very substantial reduction in the prices of Diarsenol, Neodiarsenol and Sodium Diarsenol is made. They will now be supplied at approximately ONE-HALF the amount you have been paying for arsenicals of any brand in the past.

This reduction is made possible through the perfection of manufacturing processes which ensure very uniform dependable products, without any losses due to material failing to meet the standards of the United States Public Health Service.

Diarsenol brand products are now unexcelled for solubility, stability, low toxicity and therapeutic power. All are tested at standards very much higher than Government requirements. Each lot is officially tested and passed by the U. S. P. H. S. before being shipped, as all material is made under regulation and control of the Government.

If you are not at present using our arsenicals, try a small order—your dealer can supply it—or a line to any of the offices below will have prompt and careful attention. Literature on comparative therapeutic efficiency mailed on request.

DIARSENOL COMPANY, Inc.

ATLANTA, GA. Forsyth Bldg. | **BUFFALO, N. Y.** Ellicott Square | **BOSTON, MASS.** 53 State St.

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 686

WILLIAM SCHEPPEGRELL, A. M., M. D.

President American Hayfever Prevention Association.
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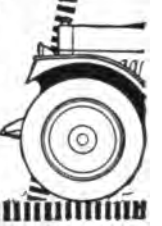
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The American Physician

Vol. 27 | September, 1922 | No. 9

Epidemic Psychic Imbalance

PSYCHOSYNTHESIS NEEDED RATHER THAN PSYCHOANALYSIS

JUST WHICH HORMONE is "hyper" or "hypo" in the psychic imbalance so current today we do not know, but we would like to find some material or tangible thing to blame for a sort of spiritual hypochondriasis that Conan Doyle and others are capitalizing. The hypochondriac believes himself suffering from some grave disease, and every so often a spiritual hypochrondriasis arouses interest in the world of spooks. Not that people really care very much about spooks or spirits, for they do not; but when the individual gets out of spiritual balance he rushes off to the medium for consolation. If his imbalance is purely physical he holds an experience meeting with others similarly afflicted, but when his body is all right and his spirit out of tune he has no material moorings, hence his interest in spiritism.

After all is said and done, one gets most mortally little out of a spiritualistic seance; for, whatever communications with the spirit world one may or may not encounter in the seance, the messages coming out of the void are petty and inconsequential, usually too foolish to influence sensible people. The medium knows this perfectly well, and he also knows that the real reason for his seances is the fact that they bring together groups of persons suffering from spiritual imbalance, whose interests are not with those gone beyond, but with themselves.

Selfish Spiritism

The person with a spiritual screw loose somewhere is really very much fussed up over something, he knows not what; and he knows he will be laughed at if he goes with his troubles to a person whose spiritual opsonic index is normal. This is a material world, but the immaterial and intangible is closer to the surface than we like to realize, and sometimes our spiritual psyche gets a cramp and we suffer. Yes, such a person suffers, really and truly suffers, and he craves consolation. There is a pre-religious phase to such suffering, just as there is a pre-medical phase to physical conditions. Sending one of these persons to a clergyman shocks him just as much as to telephone for the hospital ambulance. He does not want cut-and-dried religion any more than he wants a surgical operation. He knows just what the clergyman will tell him and he also knows that his condition is "different" and he wants soothing treatment; he wants to be "understood," not patronized or reasoned with. So he goes ostensibly to see the medium and have a talk with some spook; but what he *really* goes for is to meet a group of companionable people in the same fix as he is himself. He hopes, by heart-to-heart talk with them, to get help for himself. After all, he cannot be blamed for this experience-meeting attitude, even if he does have to tolerate a medium as the class leader, as it were.

What Shall We Do for Such People?

Neurologists have long recognized that this problem exists, oftentimes in epidemic form. So did Mary Baker Eddy and others realize it. We are not discussing Saint Eddy now, but the neurologists. As a matter of fact, Mrs. Eddy developed Christian Science and the neurologists developed psycho-analysis, and we want to discuss the latter.

Psycho-analysis is "a method of obtaining from nervous patients against their will, a knowledge of their past experiences." Now, the stage setting of the psycho-analyst is semi-spooky with just a dash—sometimes several liberal helpings—of sex and sex experiences. Accessories aside, psycho-analysis is a sort of spiritual or psychic dentistry and one has to take gas to keep it from being painful; it digs out old roots and resurrects corpses. No one wants to see a spiritual corpse, not even their own, hence psycho-analysis makes the mistake of going back to the past, whereas the person with a psychic imbalance wants to attract interest to the present and the future. Christian Science takes up the present, while the medium pries into the future, and in the present worldwide epidemic of psychic imbalance, the Eddyite and the medium are putting it all over the psycho-analyst.

The history of these psychic spasms that sweep the world is that they usually end up in some sort of religious manifestation, oftentimes extravagant or hysterical. Religiously considered, it is to be hoped that the better educated clergy of today will restrain the hysterical and extravagant features, when the next great revival of religion comes. Unfortunately, religion, as such, can do very little for the present spiritual or psychic imbalance. Can the physician

do anything?

Psychosynthesis

Psycho-analysis tears apart and analyzes, principally the past. This is sometimes useful, but usually it should be lightly touched upon where there is no organic disease. An analysis of the present psyche is more important. No analysis cures; it simply aids in diagnosis.

What is needed is something curative, something upbuilding, that restores, regenerates and recreates, or re-creates, as one chooses to term it. In other words, we do not want analysis; we want synthesis. Hence we coin the word psychosynthesis as what we mean.

It would take a vast deal of research, study and clinical observation to develop the full range of psychosynthesis, and that will not be attempted here; but it is patent to all that some such advance in the treatment of psychic imbalance is needed—not only for treatment, but for prevention. Permit the observation that it might well be founded on psycho-analysis, simply extending that science in rational directions, and, at the same time, eliminating from it a deal of chaff and unnecessary stress upon the sex factor. Doubtless there are psycho-analysts today who are gradually doing this very thing.

Insanity, Neuroses and Imbalance

Pathologists are explaining insanity more rationally than the alienist and psychiatrist are doing. Syphilis, tuberculosis, other infections, alcohol and other toxic irritants, traumatic changes and injuries, blood-vessel degenerations—these are the things that cause real insanities. A psychosis is a morbid mental state without demonstrable organic lesion, and it may or may not produce a delusion or other legally accepted proof of insanity. Many psychoses are entirely curable outside of a hospital for the insane. A neurosis is, even more completely, a functional disease of the nerve centers or peripheral nerves. We have come down the stairs, as it were, and at the bottom we find psychic imbalance. Reverse the process, and we find the patient climbing from an imbalance to a neurosis or even to a psychosis. So, then, psychic imbalance is important and must not be treated lightly, especially when, as exists at the present, a worldwide epidemic of psychic imbalance is noted.

Time to Slow Up

The present recrudescence of spiritism will soon pass, as such reawakenings have passed before; but it may be a long time before the present epidemic of psychic imbalance passes. Viewing its features as the ultra-neurologist does will accomplish little. The general practitioner, the sociologist and the more level-headed clergymen must study the situation broadly. It is possible some modification of present religious methods may help; but the main things needed are social readjustment and clinical study of each case. Doctor, don't be unsympathetic with your patients who are running after mediums, science healers, oriental mystics, religious fanatics or new-thought cults; they are suffering from the current psychic imbalance and need your sympathetic help, not your scorn. Don't turn these people away with a prescription for bromides or some other drug that will probably harm them. And don't forget that the world is full of poor souls who need sympathy.

We Are Reaping What We Sowed

For years we allowed alcohol to get a terrible hold on all classes of our people; then a sudden revulsion against it came, and there are many thousands of good citizens who are off balance because they do not get their liquor at all or get it in some poisoned form. Society is paying for this.

We have abused tobacco, coffee and other caffeine-bearing drinks, which, used rationally, may do little harm; but they are used in excess and very irrationally and are doing a vast deal of harm. Society is now beginning to pay for this.

We have allowed our patients to prescribe strong drugs for themselves, often on our own prescriptions and against our own better judgment, but more on their own initiative; and opiates, chloral, synthetic somnifacients and analgesics, irritating "tonics" and a world of pharmaceutical trash are disturbing the national physical and psychic balance. Society is already paying for this and *will* pay.

And all the wild agitations, the excesses, the cupidity and self-seeking, the running after strange gods, the lack of parental and other restraint—these will all be paid for by society. Today it is pay, *pay*, PAY, and "the Devil take the hindmost." "Step on the gas, Kid!" is our national motto. Let's whistle down brakes! It is up to the medical profession to do it. Who else will!—T. S. B.

Significant New Publication

"The American Medical Press"

"Devoted to the Political and Economic Interest of the Medical Profession"

It seems to us significant of the growing recognition of the vital importance of the question of the future economic status of the rank and file of physicians, that a publication is now started devoted particularly to this field.

THE AMERICAN PHYSICIAN has for several years urged the importance of this problem, and has devoted particular attention to arousing the rank and file of the profession to an earnest and constructive

attention to it. If solutions are to be worked out in the development of modern medical service to meet modern conditions that will conserve the individual economic independence of the physician in general practice, we feel that it will be accomplished only through the insistence of an enlightened medical public opinion that springs from and has its roots firmly established in the rank and file of the profession. "The price of liberty is eternal vigilance."

Subscribe

We are glad to welcome a new colleague in this important work. There is need for every force and agency that can be enlisted in the constructive service of this cause. Doctor, as a matter of intelligent self-interest, you should support every publication giving earnest, adequate, constructive attention to this vital problem. Subscription to the American Medical Press (280 Broadway, New York City) is $2.00 yearly.

The first two issues are decidedly good initial issues and very promising. As an indication, some of the titles are: The Menace of Ultra-Specialization in the Practice of Medicine; Medical Education and the Future of the Medical Profession; Suggestions for Operation of a Doctors' Exchange in Communities of Thirty Thousand or Over; Multiple Voting Privilege in the American Medical Association; The Menace of Foundation Control and Full-Time Medical Education, etc. Doctor, we believe it will be well worth your while to send an initial subscription to this publication. Continuance of subscription to any publication should depend upon your judgment of the service rendered.

The Sound Foundation

We should like to add a note that we try to keep ever in the foreground in every consideration of this subject. The interest of the public is paramount. The best interest of the rank and file of the medical profession will be served *only* as the best interests of the rank and file of the public are served. Regardless of any professional interests, medico-political interests, commercial interests, any medical journal interests, interests of any medical society or organization, any interests of any group large or small, the most efficient service in the conservation of health must be made available to the public on a self-respecting basis at a reasonable cost within the ability of the public to pay. The first test that every proposition and every instrumentality must meet is—How Will the Public Be Served.

This is not a vague, visionary point-of-view; it is sound, practical common sense and enlightened self-interest for the rank and file of the medical profession.

THE AMERICAN PHYSICIAN is convinced that the best interests of the rank and file of the public and of the rank and file of physicians are mutual and complementary. Constructive work of enduring value in this field will be built only on that foundation.

C. C. T.

Immunizing Against Diphtheria with Toxin-Antitoxin

SOME PHYSICIANS fear that this modern procedure is dangerous and contend that it is new and untried, therefore, dangerous. As a matter of fact, the earliest work along this line, performed on laboratory animals, was done twenty-five years ago, and the first work on man in 1913. So, then, it is not new and has been most carefully worked out before placing it prominently before the profession as a clinical resource.

We know that the inoculation of horses with the toxin in the process of making diphtheria antitoxin is not dangerous, the horses remaining in good health except for certain reactions not at all dangerous under proper technic. But antitoxin, not being of human origin, while effective therapeutically confers very brief immunity on human beings. For this reason the toxin nearly neutralized with antitoxin, when injected into man, causes the elaboration of an homologous antitoxin, and thousands of human cases show that the danger is very slight and confers a fairly lasting immunity.

It is true that in a child of tender age a slight reaction occurs in all cases, and a moderate and occasionally severe reaction in ten per cent. of older children and adults, this reaction being from protein, not from the toxin as such. With improvement in the technic, less horse-serum antitoxin or a concentrated one being used, the reaction should become less marked.

Some Clinical Considerations

There is some question whether a completely neutralized preparation should be used, or one slightly less than neutralized; but as the toxin-antitoxin tends to complete neutralization on standing, the recent practice is to use a preparation not completely neutralized.

Dr. William H. Park, the able director of the laboratories of the New York City Department of Health, is the authority for most of the following statements. Three injections, 1 cc. each, spaced one or two weeks apart, will cause about 85 per cent. of susceptible children to develop sufficient antitoxin to produce protection against diphtheria and give a negative Schick reaction; but the development is slow, being from one to six months after using the toxin-antitoxin, when it affords protection against diphtheria, in 90 per cent. of the children, for more than six years and probably for life.

Toxin-antitoxin injections should not be given within two weeks of an injection of antitoxin, as the toxin is thus overneutralized and is ineffective in large degree. Preparations used should not be over three months old in order to be fully reliable, but older preparations are not dangerous and do not become more toxic. The Schick test is a valuable control in determining the degree of immunity attained, but is usually omitted in a child under three years of age and in school work, in which it is often a routine to give the injections. Toxin-antitoxin injections are rarely used in children under six months of age, the tissues of the baby not responding well.

We desire to urge the profession to thoroughly familiarize themselves with the toxin-antitoxin procedure, since its value is now fully determined.—

On the opposite page you will find a paper on "Diphtheria: Control and Prevention," by Dwight M. Lewis, M.D.

Experimental Innoculation of Human Throats With Virulent Diphtheria Bacilli

Guthrie, Marshall and Bull (Johns Hopkins Hosp., Dec., 1921)—Diphtheria bacilli obtained from the throat of an otherwise healthy carrier, and proven to be virulent for guinea pigs, were innoculated into the throats of eight volunteers. Four of the eight had previously given a positive Schick test and all four developed clinical diphtheria. The other four gave negative Schick tests and none developed the disease after innoculation.

All of those innoculated with the exception of one who had given a negative Schick test became carriers.

The authors have found that the administration of antitoxin does not always prevent the carrier state. They also believe that the guinea pig test can be relied upon to estimate the virulence of diphtheria bacilli.

Diphtheria bacilli of a virulent type in the throats of otherwise healthy carriers can produce clinical diphtheria in susceptible individuals.

Incorporation of The American Society for the Control of Cancer

On May 15, 1922, the society was incorporated under the Membership Corporations Law of the State of New York. This step was taken after the Judiciary Committee of the Senate had decided against recommending the incorporation by special act of Congress of the charitable, benevolent and educational organizations, including this society, which had applied for national charters.

The certificate of incorporation of the society states that "its operations are to be principally conducted in the United States of America" and describes its purposes as follows:

"To collect, collate and disseminate information concerning the symptoms, diagnosis, treatment and prevention of cancer; to investigate the conditions under which cancer is found and to compile statistics in regard thereto."

Coming

Cancer Therapy; The Proper Co-ordination Between Surgery, Radium and X-Rays, by Isaac Levin, M.D.

In his authoritative paper, Dr. Levin states that it is of the utmost importance not to impede the correct and scientific progress of the subject by either an over-enthusiasm over one method or an unwarranted pessimism over the other. Dr. Levin believes an individual cancer patient has a far greater chance for recovery now than thirty-five years ago, and that the most important problem today is to obtain a true evaluation of the three methods of cancer therapy and find a way for their proper co-ordination.

Pathological Personalities, by Gustav F. Boehme, Jr., M.D.

It is the author's belief that ours is an age of increasing insanity and mental defectiveness, the basic principles of which hinge closely upon "pathologic personality."

Something undoubtedly must be done; and Dr. Boehme indicates a large opportunity for the physician to prevent if possible and to cure where possible these unhealthy mental states.

Ectopic Pregnancy, by Gilbert I. Winston, M.D.

Few conditions are as dangerous as ectopic gestation. Few conditions require as prompt and as efficacious attention as does this fatal disease. The excellent recapitulation herein presented, together with the cases illustrating the points dwelt upon in this paper should prove of interest and value to both physician and surgeon.

Obscure Etiology of Trifacial Neuralgia Complicates Satisfactory Treatment, by William A. Lurie, M.D.

Trifacial neuralgia results from a variety of factors of imperfectly understood origin. Because of this obscure etiology the treatment is equally unsatisfactory. To remedy this, the paper of Dr. Lurie attempts to unravel the complicated elements involved and explain matters on logical and sensible bases. Its practical value, then, is self-evident.

Gall Bladder Diseases, by G. S. Foster, M.D.

Gall bladder diseases, experience has shown, yield more readily to surgical than to therapeutic measures. However, the scalpel must here cut with caution and care, as is asserted by Dr. Foster in this short, clear-cut, sensible paper.

Ludwig's Angina, by Mayer Shoyer, M.D.

When crossing a railroad you stop, look and listen. When crosssing Ludwig's Angina you do not, you rush your patient to the surgeon, or the patient will go to the undertaker as is emphasized in this short but illustrious paper of Dr. Shoyer.

Muscular Tone and Reflex Pain in Diagnosis, Twenty-ninth Clinic, by A. Mackenzie Forbes, M. D.

The duties of a diagnostician are similar to those of a judge. "In a court of law the evidence is of the greatest importance. The omission or addition of one point may change the court's decision. In a similar way the science of diagnosis, the collecting, weighing and properly adjudicating the significance of the symptoms is of the greatest importance."

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 684

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Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Diphtheria

Control and Prevention

By DWIGHT M. LEWIS, M.D.
New Haven, Conn.

Control—Early Recognition of Cases

A preventable death not prevented is a stigma on civilization in general and medicine in particular. To correlate internal and prophylactic medicine, to harmonize epidemic experiences and standing facts, read Dr. Lewis' paper. You will find it sensible, instructive and practical.—EDITORS.

FOR REASON OF theoretical completeness of measures, not only of control but of prevention of the disease under consideration, explanation of the continued general absence of control as shown by the mortality statistics for 1921, country wide as well as for varying cities, as compared to immediately preceding years, deserves the close attention of the general practitioner, whether of internal medicine or of the public health.

The past history of attempted control has rested primarily on the tremendous success of prophylactic and curative diphtheria antitoxin, any reasoned lack of control being a measure of the inability to hospitalize cases or to find the mild missed case. Generally the present-day viewpoint is that the healthy carrier has been the predominant missed source for absence of control. But little less important is the very general public health teaching yet prevalent in all centers, that both parent and physician are responsible for failure to early recognize, report and cure such numbers of cases as would make for control of the disease. Therein lies the first fallacy of reasoned control. The fallacy lies very definitely in the pathology of the disease. An essentially toxic process and one predominantly of the younger child (90 per cent of deaths at the least are frequently in children under age 5), *there is neither complaint, on the part of the patient, nor appreciation on the part of the parent, of a sore throat.* In sharp distinction to the ordinary "follicular tonsillitis" in the same age group with its immediate prostration, fever and evident disability on swallowing, diphtheria may only be appreciable to the parent from the utterly indifferent, even obscure, signs of low fever and general lassitude, the measure of a slowly increasing toxemia. It is then fortunately true that parents do not await a complaint of sore throat or the appreciation by actually seeing a sore throat before calling for medical attendance. The following recent example is the usual:

"On a Friday afternoon a young Polish mother took her 5-year-old boy to the dispensary because he had a slight fever. A throat culture was taken and the mother told to report with the child the following morning. At the latter time a positive report was had, 8,000 units of antitoxin given, and the case reported to the Board of Health as an emergency case without medical attendance. The mother refused to permit hospitalization of the case. No carriers were found in this family nor in a second family in the house. On the following Friday, a culture from a 5-year-old boy in a parallel street, one block away, was positive for diagnosis. The history here was that the child had been "ailing" for some 5 days, but that it was only when the boy seemed "sick" on Wednesday that the family physician was called. The father of the case rather pertinently asked whether the father of the first boy mentioned, a peddler, might not have brought the disease here on a visit he had made the Saturday previous. Inquiry elicited the fact that the families knew one another and that the children had been playing together with other children in the neighborhood previous to the onset of the first case. Fortunately at this point the oldest child in the family, a girl age 7, came in from school, and the presenting bloody, purulent unilateral nasal discharge of the girl became the positive epidemiological evidence of the cause of both cases. Confirmation was had the following day with a positive

laboratory result."

The usual then presents first, the phase that no amount of education on "sore throats" can obtain control through early finding of cases, and secondly that while control may be said to be had with the discovery of the carrier, yet prevention had not been obtained.

The Carrier

Discussion may hold then first as to the question of the carrier, and why, although control may be obtained, prevention is not obtained. Literature is at the present time well filled with the numerous city surveys, showing that upwards of 2 per cent of population are, during "normal" times, healthy carriers, increasing in percentage with the relating frequency of the disease. By reason of the showing by virulence tests that but one in ten of such healthy carriers have virulent germs in throat or nose, few cities seek healthy carriers in advance of actual cases, and then only among contacts of cases, unless for reason of prevalence, and under such conditions as several in one school room. The basis of such surveys has been and is dependent entirely upon systematic, routine culture reports from nose and throat. Except then, in times of frequency of the disease, it is the usual that cities try not to find such carriers, necessitating much social restrictions until virulence can be established. The fallacy here lies, as we have shown, in the initial field work that was done with the diphtheria carrier, in the absence of appreciation that the healthy carrier responsible for a case or cases as well as for further carriers showed a pathological picture appreciable to the eye. Predominantly nasal, it resolved itself into the time-honored, "nasal diphtheria" (other than being secondary to faucial diphtheria and as such in one at the time practically moribund), being frequently a previous recovered case of the disease, with evident defect of nose, usually unilateral, and with a pathological discharge.[1] Our previous epidemiological supposition that a healthy carrier was thus diagnostic rather than a carrier without such pathological evidence, although with positive laboratory evidence, has since been borne out in a small number of virulence tests, positive laboratory cultures from ordinary head colds and "tonsils" showing negative virulence tests. In accord are the data of the more extensive results of hospital carriers, literature showing that the nasal is the usual and has the irritating characteristic previously described. It is noteworthy that our survey based on the pathological manifestations to be seen by the eye and confirmed by the laboratory, in some 35,000 school children in 1917 by two nurses, gave a two-tenths per cent. of health carriers.[2]

Diphtheria and Measles—Immunization

One further factor has obscured the possibility of obtaining control as practiced by the laboratory demonstration of carriers. That an entity like diphtheria should in any way be dependent on any other entity like measles is untenable to a laboratory worker. *It was the historical fact that diphtheria follows measles and that during and following measles nasal diphtheria is unusually prevalent,* that gave us the field demonstration of the characteristic healthy diphtheria carrier.

With the observations that active immunization by a toxin-antitoxin mixture has, during periods of from 5 to 8 years, given a very material reduction in the morbidity and mortality among those so protected as contrasted with those of the same communities who were not immunized, a decided reversal of method of prevention as well as control, is increasingly advocated as the solution. Wide application *during times of infrequency of diphtheria,* of immunization of all children under age 6, irrespective of the Schick test for susceptibility, with immunization of children over the mentioned age dependent on the susceptibility test, makes unnecessary any control of the healthy carrier. During a time of frequency of the disease, until all contacts have been so immunized, control may be had by temporary immunization by antitoxin.

Increased Susceptibility Through Other Diseases

To the field worker who is as well a student of the vital statistics of the component parts of not only the United States, but of the foreign countries who are constantly contributing added population to this country, two fundamental facts have been overlooked. The first is that the method under consideration is applicable in rural regions or in urban districts where combat of diphtheria is not a large problem. The second fundamental (and it explains as well the first fundamental), is that no consideration is given as to the relationship of any dependence on other specific respiratory diseases. It is on record that *during measles, scarlet fever, poliomyelitis* and other such diseases, *an increased susceptibility to diphtheria is shown as evidenced by the positive Schick reaction in one previously negative.* We return then to the observation made previously that measles frequencies are factors in immediately succeeding frequencies of diphtheria through the historical increased "nasal diphtheria," the latter constituting our healthy carriers. That a large measure of prevention may not be obtained in large cities may then be readily seen. During measles years the diphtheria carriers, increased in numbers, have increased susceptible material among those with, or recovering from, measles. I have observed that such may be deduced from vital statistics of communities as well. In an as yet unpublished paper it is shown that during a five-year respiratory cycle urban cities continue their history of such previous cycles by having a constant of two or more times a diphtheria mortality as measles mor-

tality. Appreciation of this factor and of those factors which we have recorded as of race and climatic conditions,[3] correlate the exceptions of such constants in certain urban cities. There results not only an opportunity of co-ordinating the times of especial combat from carriers, but of reasonable estimation of the results of possible decreased mortality as related to the past history of the disease.

Vaccination vs. Eradication—The "Endemic Index"

Neglect of healthy carriership of the disease may be provocative of absence of prevention along other lines than of diphtheria. There is as yet an unrealized importance in the control of the nasal streptococcus carrier, who, as we have shown, may not only resemble pathologically, the nasal diphtheria carrier, but may, in a single carrier of both organisms, give rise to separate infections in the same family in two different age groups.[4, 5] A rather definite explanation of the "epidemic constitution" of Sydenham and as definite explanation of the replacement of one disease by another of Watt follows. We also reach an analogy with the current prevention of typhoid fever. Shall we by vaccination render a population for a period of years immune to typhoid fever, or shall we by control of feces and urinary excretions prevent not only typhoid fever, but infant diarrheas, the dysentaries, hookworm and, as many epidemiologists suspect, but as yet are statistically unable to prove, an appreciable measure of prevention in all forms of tuberculosis? The factor of the specific microörganism as the dominant problem in each specific disease becomes then subordinated to that factor which may release a multiple number of such specific microörganisms, causing not only an interdependence of the respiratory diseases, but of the filth borne as well.

The public health bookkeeping is, in a measure, responsible for results in lack of control of the disease. By reason of the so-called "endemic index" or its later modification, the median index, an appreciable amount of epidemic frequency of the disease is present before action may be taken. The reason for the amount of epidemic frequency present may be seen in its interrelation with measles.

A corresponding normal year may either be the comparable one of the previous respiratory cycle, or yet better, the best previous one on record.

The former is the method of choice when comparative data of cities is sought.

Control and Prevention In Institutions

There are on record many instances of methods of control and prevention of the disease in institutions. The following two instances are related in contrast to those on record: In 1916 in a tuberculosis sanatorium with a total of approximately 150 patients and staff, there occurred simultaneously two cases of diphtheria. Nose and throat cultures of all patients and of the staff were sent me for carrier determination. One nasal culture only was positive. With isolation of the carrier, I advised a twice daily inspection of nose and throat for the ensuing week or ten days. There was no further carrier or case until two weeks later. At that time I was told over the telephone that there was a further case and was asked for advice. On inquiry it was stated that both of the former cases had been returned from the hospital a few days previously. Advising an inspection first of these two for nasal discharges or in the absence of such an inspection of the entire personnel of the institution with cultures of suspicious nose or throat conditions, I was informed within an hour that one of the two returned cases was the only individual showing an unusual nasal discharge and that a culture was being sent. With the isolation of the individual and a finding of a positive culture, the former procedure of inspection of nose and throats was continued. During the ensuing two years there was no further reported case. During this time an added procedure was advised, namely, the inspection of the nose and throat of every patient on admission to the institution.

The second instance was in a local orphan asylum with a content of approximately 500 individuals. In January, 1918, there occurred the first case of diphtheria in many years. I immediately sent a nurse trained in the finding of carriers to the institution. There were two typical nasal carriers found, one of whom was a recently infected one, the other, a more chronic one, being an orphan recently admitted from a neighboring city. Cultures were taken from these two carriers and from upwards of one-half dozen children who had ordinary head colds, in order to exclude recent impregnation of the head colds by the two carriers. Such was not found to be the fact. Those in charge of the institution were shown the diagnostic appearance of the carriers, taught to take cultures, and after being visited twice during the ensuing ten days for assurance, have controlled the situation by routine daily inspection of nasopharynx of all inmates and of the routine culturing of all new admissions with isolation until proven to be free from carriership.

Preventive Medicine—A Dying Art

Not unnoted is the appreciation that the art of medicine is often a part of the past. The laboratory as a reasoned aid to that art, has, to the younger practitioner, become the controller. The human elements of the past history, of diagnosis, of treatment, even of prognosis, whether in a case of pneumonia or other disease, have become dominated by consideration of the specific etiological micro-organism giv-

ing rise to the disease. In no dissimilar fashion there appears on the horizon its analogy in considering the art of preventive medicine. The public, safe from smallpox by reason of vaccination, are warned to be vaccinated or have smallpox; be vaccinated or have typhoid fever; already in public health bulletins there is the prediction that in the near future the public will be told to have diphtheria toxin-antitoxin or have the disease. There are some who vision the future as one of education in such health habits as will control preventable diseases, including diphtheria. The fallacy of such apparent medical impossibilities would seem to lie along two directions. The first is the increasing dominance of educational propaganda logically reasoned by non-medical theorists in advance of medical demonstration; secondly, the decreasing responsibility of the medically trained, not only those in internal medicine, but those connected with preventive medicine as well.

Intermittency of Virulence—Conclusion

In the consideration of the prevention as well as the control of diphtheria (and of all other preventable disease as well), heed may well be taken of the words of Hill-Greenwood in the *International Journal of Public Health* in their article, "Relation of Health to Atmospheric Environment":

"When the inspiration of classical Greek science, which found its noblest medical expression in the writings of Hipprocates was spent, clever, unoriginal minds reduced medicine to a system needing much study to master and as unreal and useless as the academic political economy of the earlier Victorian age. The witch doctor had returned and held sway for more than 1000 years. The revival of experimental physiology of the sixteenth and seventeenth centuries and the efforts of such great physicians as Sydenham removed this incubus. The popular idea that freedom from disease can be secured by specific immunization, by this or that ad hoc method, is the old appeal to the witch doctor clothed in modern phraseology." Vol. 2, No. 3, pp. 232.

In sum, there is distinct epidemiological and statistical evidence from vital statistics that prevention of diphtheria may well be at basis dependent on better field investigation of the carrier. From the study of typhoid carriers it would seem that "once a carrier, always a carrier" is rather definitely dependent on relating factors of activation by intercurrent affections, for example, predominantly gall bladder infections in adult females. Similar consideration may well prove the intermittency and irregular virulency of the diphtheria carrier and establish the pathological basis. Consideration of the carrier leads to the demonstration of pathological carriers of other specific diseases, explaining the "epidemic constitution" and replacement of specific diseases. Results commensurate with those where action has been taken against typhoid fever would appear to be even greater in the case of the respiratory diseases if the basis is made one primarily of visible or demonstrable local pathology and secondarily that of bacteriological content. The vicious circle of interdependence of specific diseases is cut at any one point. It is essential for prevention that control be carried to the point of continuous consideration of the carrier before the occurrence of cases. Finally the proper placement of medical responsibility and an intensification of procedures and methods in accord with the science of internal medicine and preventive medicine alike, may be the desired accomplishment.

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The Common Drinking Cup

From Dr. Hermann M. Biggs, New York State Commissioner of Health

The use of the common drinking cup is undoubtedly one of the ways in which contagious diseases are spread, since by its use infection may be carried rapidly from mouth to mouth.

While careful people take pains to wash off the edge of the cup before drinking and thus succeed in removing some of the saliva of the previous users, it is a fact, proved by careful experiments, that nothing short of soap and hot water will remove all of the germs from the rim of a drinking cup.

The common drinking cup has been banished from railroad trains, first-class hotels and many large halls and public buildings, but it is still to be found in many public places. With the many cheap paper cups now available the time has come when the common drinking cup should be absolutely forbidden in all public places. Especially should this rule be rigidly observed in all schools and other places where children gather, for the poisons causing contagious diseases common to children, such as measles, scarlet fever, diphtheria and so forth are spread from mouth to mouth in saliva, and in coughs and sneezes. Even in the home careful people will see that separate glasses are provided for each member of the family.

While on this subject it may not be out of place to call attention to the lack of proper facilities for glass washing at many soda fountains and soft drink parlors, where running water is not available. Particular reference is made to roadside shacks and summer resort booths which are in use for only a short period during the year. In such places a simple pail of water, without any soap, has been known to serve for the washing of innumerable glasses during an entire day. Such places should receive immediate attention from local health authorities and should be put out of business if they refuse to conform to the rules of common sanitary practice and ordinary decency.

Do not patronize any place where glasses and other eating and drinking utensils are not absolutely clean. Better go thirsty than run the risk of taking disease from some previous customer.

The Problem of "Nervous Indigestion"

By Geo. M. Niles, Ph.G., M.D.,
922 Candler Bldg., Atlanta, Ga.

TO THE PHYSICIAN who has honestly endeavored to drink deep from the Pierian spring, this problem is significant—oft times vexing. To be just to the patient, to safely eliminate surgical contingencies, to either coax or compel an unstable or capricious digestive apparatus into furnishing the body a sufficiency of available nourishment—these are only a part of the whole problem as it is so frequently presented to the gastroenterologist.

These sufferers come to us in various forms; their alimentary tracts present disturbed secretions, sensation and motility, while the psychic relations are generally the most awry. They constitute a generous percentage of the habitual invalids who throng the health resorts and sanatoria; who patronize the freak cures and freakier "curists"; who subscribe to the new cults and fads, and who furnish the predatory fakirs much of their income.

Common-Sense Psychology

The problems of "nervous indigestion" are numerous and difficult, chiefly so because of the organic and neurotic elements combined. Unless the gastro-enterologist supplements his medication with common-sense psychology, he is doomed to positive failure. The factors here involved have been happily solved by Dr. Niles in this delightful paper. He truly succeeded, to use his expression, in playing a poor hand remarkably well.—Editors.

These true neurotic types are seldom found in either the extremes or near-extremes of life, but in those past the twenties and under the fifties—those at the age to care for themselves or others. In children the digestive organs are less impressionable, while in those past the prime of life there seems to be established an immunity; or, on the other hand, they have learned by experience how to side-step such habits or articles of food as are injurious.

The Principal Sufferers

This "nervous indigestion" is seldom found among those who earn their bread by manual labor, or among the uneducated or unrefined. Those who labor with their brains, whose nerves are tense, votaries of the "strenuous life," the eager spirits who burn the candle at both ends—they are the principal sufferers.

Contrary to the reports of some well-posted observers, who claim to find a majority of these neuroses in women, my experience has led me to believe that fully as many men are affected. While women have more time to complain, and seem, in a manner, to possess more sensitive reflexes, men come more directly in contact with the issues of life, often floundering among the shallows and breakers, until they suddenly discover digestive disorders cropping out, to their great discomfort. Under such circumstances these wide-awake business or professional men begin to train their analytic powers on their own internal organs, and before they fully realize the danger of such a habit they find themselves taking each meal, perhaps each mouthful, in a state of gastronic introspection.

These patients crave relief. They are not posted on vicious circles, on inhibition, nor on hormones. They find it difficult to comprehend that the epigastrium is simply acting as a reflex alarm center for disorders, either material or psychic, entirely outside that troublous zone. To minimize their sufferings or to admonish them to "forget it," proves absolutely unsatisfactory to the patient, and asinine in the physician.

Diagnosis and Treatment

Occasionally we can remove an irritating cause, but more often such causes as domestic infelicity, erotic longings, unsatisfied ambition, uncongenial environment, financial reverses, or carping care, are entirely beyond our reach.

In one of the inimitable western tales written by Alfred Henry Lewis occurs the account of the death and burial of a highly esteemed gambler, on whose tombstone was inscribed this meaty epitaph: "Life Is Not in Holding a Good Hand, But in Playing a Poor Hand Well."

This fitly applies to the problem now under consideration, as well as others in life.

To enter into the niceties of differential diagnosis in this necessarily brief paper would lead too far afield, so, passing this phase of the subject, eliminating as far as possible surgical indications, and being

reasonably certain that no marked anatomic lesions nor important organic changes are underlying the outward digestive discomfort, it behooves us to outline some general plan calculated to meet and control the protean symptoms presented from day to day.

The line of treatment embodied in this study may not stand the test of therapeutic orthodoxy, but it has served me well in many instances, and, as an old antebellum negro said to me when a lad, that the only way to learn a thing was by "hard knocks and sudden jerks," some very trying experiences have forced me to evolve certain ideas, which I deem at least worth a trial.

To begin, if practicable, the patient should receive a more thorough and painstaking examination than he has ever had. This serves the double purpose of placing the physician on a solid basis as to direct and indirect morbid conditions, while it satisfies the invalid that a real interest is being taken.

This examination will in every instance furnish a cue by which a preliminary treatment may be inaugurated. Right here let me emphasize that *treatment* is what the patient desires, and as an integral part of this treatment some form of medication meets both an intrinsic and psychic need. Should there be hyperchlorhydria, and oft-present neurosis, antacids sufficient to neutralize the excess will win the opening skirmish and increase the physician's influence. A hypoacidity will naturally call for HCl, which may generally be combined to advantage with nux vomica and pepsin, though pepsin, apart from being a good vehicle, possesses few of the virtues ascribed to it. Less than ten drops of the dilute HCl amounts to nothing, and more than thirty drops often proves irritating, so, from twelve to twenty drops, well diluted, will give the best results. Occasionally we find achylic stomachs intolerant of any form of acid, and when this is the case it is useless to push it.

For the almost constant eructations, a combination of milk of magnesia and milk of asafetida, to which is added a small quantity of compound spirits of lavender, tincture of myrrh, or compound tincture of cardamon, may be given *ad libitum*. It is well also to be on the lookout for aerophagia, for, when the eructations are frequent, explosive and odorless, they often consist of only swallowed air. When this is the case the patient should be admonished to keep the mouth closed while eating and swallowing, avoiding conversation while food is being masticated.

A point I consider almost the keynote of the treatment is to change the medicine in some way, even though it be simply a change of appearance, every few days. These neurotic alimentary tracts must be kept guessing all the time; for, if they "get on to our curves," we at once lose a great part of our influence. I have often added to an alkaline powder of calcined magnesia and bismuth a little pulverized charcoal or carmine to the increased satisfaction of the patient. The active and indicated base of the prescription may remain the same, so long as the adjuvants are frequently varied.

Constipation is often present, and should be managed like constipation complicating any other trouble, if only the watchword of frequent change is borne in mind.

The question of gastric lavage is somewhat a delicate one, for we occasionally encounter highly strung people who derive far more harm than good from this procedure. I might say, as a general principle, that, when there is a marked excess of stomach mucus, or a delayed evacuation of the gastric contents, an alkaline or gently antiseptic lavage at not too frequent intervals is helpful; while for hypersensitiveness of the gastric mucosa a lavage containing forty grains of nitrate of silver to the pint, and followed by plain water will often yield gratifying results. Routine lavage, however, is not, in my opinion, advisable.

Faradic electricity has proved satisfactory to me, though I confess the belief that its influence is mainly psychic. I use the intra-gastric electrode, if the patient does not object, or, if the objections are too strenuous, I apply the large epigastric pad in front with a smaller pad directly opposite on the back, administering the current strongly enough to be perceptibly, but not uncomfortably, felt.

As to massage, vibratory, and otherwise, the same may be said.

Diet

Regarding the diet, I have often found the patient suffering more from errors of omission than commission. Either reasonably or not, they have tabooed one article of food after another, until they are ingesting hardly enough to nourish an infant in arms.

There was recently referred to me a young Cuban, who had by easy stages trimmed his diet down to a daily quantity of three glasses of malted milk, expecting to continue his work on this munificent allowance. On finding the gastric juices present in a workable quantity, I admonished him to begin eating, assuring him that if he would eat I would help him take care of it. Heeding my advice he gained ten pounds in twelve days, ultimately making a perfect recovery.

So many of these nervous dyspeptics have developed a sitophobia or morbid fear of food, that all the persuasive arts of the physician are demanded to keep them adequately nourished. Acting on the principle that "birds who can sing and won't sing must be made to sing," when I find present a decent amount of digestive juices I endeavor with all my might to force these recalcitrant stomachs and intestines to do their duty, even though they do it complainingly.

For indifferent or finical appetites I use the stomachics condurango, calumbo or nux vomica, with com-

pound tincture of gentian or cinchona as a base, changing them constantly, as I have previously indicated. Occasionally, where hyperacidity exists, three grain doses of orexin, given two hours before mealtime, will wonderfully cheer up an indifferent stomach.

Hydrotherapy and Psychotherapy

Hydrotherapy is specially valuable in these conditions, aiding, as it does, the emunctories, cleansing the bodily Augean stables, relaxing the nervous tension, and adding its quota of psychic uplift.

The benefits of hydrotherapy have not been appreciated as they should by the rank and file of the regular medical profession, and I consider it high time that we wake up to our opportunities in this important field, not relinquishing it to others, as we have to a regrettable extent.

Change of environment, or even of occupation, should be recommended at times; in fact, there are certain of these cases where a change, and the more radical the better, seems the only method by which the discouraged invalid may be started on the road to Wellville.

The whole plan of treatment is based on reinforcing the weakened digestive functions, wherever situated, pressing every procedure with kindly interest and sympathetic optimism, keeping the patient as busy as practicable, heading off doubts and fears, springing, if possible, some therapeutic surprise at every visit, encouraging each glimmering ray of hope, providing ample calories, so that bodily strength may promote nervous equilibrium, and, without slighting the main issues, taking cognizance of the countless little intercurrent and irritating ills always present.

This study I submit in the interest of that most unhappy and misunderstood class of sufferers, trusting that some of my suggestions may aid in restoring joy to troubled epigastriums, quietude to restless alimentary tracts, and springtime to repining hearts.

Rationale of Mineralization in the Treatment of Cancer

A. Robin reports in writing of silica, lime and magnesia in connection with cancer, that the results of certain experiments show that cancer fixes these bodies to a notable extent. Since they doubtless are fixed only by the connective tissue which is antagonistic to cancer growth, they may be regarded as assisting the natural defence.

S. W. Little calls attention to the significance of sudden marked increase of skin pigmentations and freckling; such unusual sudden increase in old-age freckling frequently precedes by several months the appearance of a cancer, which by no means is always a skin cancer—indeed, most frequently not a skin cancer. Often one observes a rather sudden appearance of old-age freckling before it is normally due; this also is often a forerunner of a cancer.

Varicose Veins

A SUBJECT OF PARAMOUNT IMPORTANCE IN INDUSTRIAL LIFE

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The best results from operative measures are to be found in cases in which stasis is well marked and the trunks of the veins are prominent.

In deciding for or against operation, the dictum of Mayo is applicable: "An elastic bandage is applied from the foot to above the knee. If this bandage can be worn with comfort, an operation should give relief." Discomfort from the bandage would show that the superficial vessels are necessary to the circulation—Editors.

THE PRESENCE of varicose veins is so common an affection and one that so often incapacitates the individual in the pursuit of his daily occupation, that industrial efficiency is not infrequently badly handicapped by the existence of this condition. As three times as many men as women are affected, the subject at once becomes one of paramount importance.

Veins are said to be varicosed when they are permanently dilated, due to changes in their walls. Systematic writers draw some distinction between the terms phlebectasis and varix. The former refers to the cylindrical, fusiform and tortuous dilatations; the term varix being restricted to the sacculated forms, in which pouches are formed in the venous walls. The affection may occur before the twenty-fifth year, although more than thirty per cent. occur before the thirtieth year; the remaining two-thirds of cases appearing after the fortieth year.

In regarding the venous distribution in the lower extremities, one is impressed with the peculiar hydrodynamic influence of gravity in the erect posture, as in this region there is no perivascular support, for the saphenous or other superficial veins. The valves are weak and often deficient. There is interference to the return flow through powerful muscular contractions, all of which factors favor venous stasis and produce increased venous tension. Hence the likelihood of varicosities in the leg, rectum and along the course of the spermatic cord, etc. Thus it is that varicose veins are so common among those whose occupations require so much standing, especially when combined with hard labor.

Causative Factors

Among the many causative factors engendering the

affection, we will merely refer to the possibility of certain nervous diseases, in which there may be loss of vasomotor control and in chronic phlebitis, which produces structural changes in the venous walls.

In the vicinity of varicose veins changes are observed in the neighboring arteries, they offering a sclerosed condition. The varicose process also affects veins in the large nerves, especially the sciatic. The skin above the ankles is remarkably glossy and offers a drawn, pale, translucent appearance. Later, this involved area becomes hard and adherent to the underlying subcutaneous tissue, and the chronic hyperemia leads to a pigmentation, which leaves a dark brown, permanent stain.

Lymphatic involvement now occurs, causing a secondary hard edema and this, in association of the hypertrophied corium, constitutes the so-called, elephantiasis phlebectatica. The bones often undergo a rarefying process (osteoporotic osteitis), while in the vicinity of the lower, inner aspect of the leg, just above the internal malleolus, the varicose ulcer is seen.

In forty or forty-five per cent. of cases of varicose veins, ulcers are present. These may be on one or both legs. These ulcers increase in area without treatment, and they may attain enormous size. By some authorities it is contended the ulcer may undergo a malignant degeneration.

The Development of a Varix

A vein under pressure usually dilates more at one spot than at another, the distension being greatest back of a valve or near the mouth of a tributary. The valves become incompetent and the dilatation still greater. Treves maintains that for the development of a varix it is necessary that three forces meet—the blood column above, the valve below, and the force of the blood current. At this point the vein dilates, and from this dilatation the blood current is deflected and causes another dilatation higher up and on the opposite side of the vessel. The veins not only dilate, but become *longer,* therefore, they do not remain straight but twist and assume a characteristic form.

Some years ago, Delbet showed that varicose veins that had their origin in the femur, resulted from valvular incompetence, and as a consequence, there was a variation of pressure, favoring the development of ulcers. He also pointed out that this disturbance of intravenous pressure more nearly equalled pressure in the arterioles, thereby arresting capillary circulation and causing congestion; thus greatly lowering tissue resistance. Incompetent valves also favor ulceration by establishing a vicious venous circle so well demonstrated by Trendelenburg. Trendelenburg contended that blood traversing such a circle must suffer loss of its nutritive elements. He argues that blood in the saphenous vein instead of passing toward the center, passes toward the periphery, and that it empties into veins that connect the superficial with the deep veins, which then enters the tibial and the peroneal veins. It then passes from the tibial and the femoral veins, and some of it leaves the femoral and again enters the saphenous vein.

Origin of Varicose Ulcer

In the foregoing remarks we touched lightly upon the subject of varicose ulcer. This may have its origin in a slight abrasion, blister, or scratch. Its formation is favored by the patient scratching the itching eczematous area. The skin around the affected region is extremely vulnerable, because of the trophoneurotic changes. In long neglected cases, the underlying tissues through lymphatic involvement, contribute to the sclerosed condition and the thickening of the skin that naturally results, confers upon the part the appearance of elephantiasis. The destruction of tissue often begins at the margin of a congested area and advances toward the center. When the varicosity attacks the hemorrhoidal plexus or the pampiniform plexus, we have hemorrhoids or a varicocele, respectively.

Much judgment is often required in determining the advisability of operating upon certain cases of varicose veins. While a large proportion of persons thus affected are fit subjects for the surgeon, there are many contraindications to the performance of any radical operation. There are certain associated constitutional affections that render such an operation one of considerable risk. These constitutional states include: Diabetes mellitus, purpuric conditions, hemophilia, uncompensated cardiac lesions, arteriosclerosis, cachectic conditions, etc. But where danger from inaction is imminent, the surgeon's judgment is put to test. He has little alternative in cases of rupture, hemorrhage or septic infection of the varices.

Radical operations are likewise contraindicated in instances of obliteration of the deeper veins by a previous thrombophlebitis. *Per contra,* when it can be demonstrated that the deeper veins are competent to return all the venous blood, although they may be involved in the same process, the removal or ligation of the superficial veins is indicated.

As a rule, the best results from operative measures are to be found in cases in which stasis is well marked and the trunks of the veins are prominent. The outlook for success is not promising in those instances where a phlebitis has brought about edema, with slight changes in the veins. However, if the ulceration be extensive, or the phlebitis recent, the final results of operation will give better results and shorten convalescence if the patient is put to bed some days before the contemplated operation, with the affected parts snugly bandaged and elevated.

(*Continued on page* 662)

Analgesia and Sleep, Without Narcosis

A STUDY OF A NEW DRUG

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The narcotic and habit-forming properties of opium and its derivatives have undoubtedly been the primary cause for stimulating investigations in the search for a less objectionable substitute. While many substitutes have been and are being tried out, and each has its individual value, none of them has attained that minimum of risk which is the ultimate goal.

The indomitable spirit of intensive chemical investigation, which has resulted in a rapid succession of comparatively recent therapeutic achievements in the field of syphilis, leprosy, local anesthesia, hookworm infestation and other conditions, will no doubt do much in the future to meet this and the other problems which still confront our profession. —EDITORS.

IT IS A LONG WAY from the now discredited aphorism of Sydenham to the effect that, "without opium few would be so obdurate as to practice therapeutics," to a consideration of the narcotics of the methane series, actively investigated a little over fifty years ago. Notwithstanding, the use of opium and its derivatives have since been taught as presenting the best means for treating insomnia due to pain. This practically covers the fundamental position of opium, and especially morphine, embodied in the voluminous literature on the subject, up to and including the comparatively brief modern period represented by the achievements of constructive chemistry, which, not content with discovery alone, added to its inventive potentiality the chemical control of physiological action. This was made possible, not only by some of the results achieved, but by dispelling an apparent attitude of therapeutic contentment in the face of apparent insurmountable difficulties. This indomitable spirit of intensive chemical investigation will no doubt do much in the future to meet the problems presented by cancer, tuberculosis and pneumonia, and we may now look for their solution to the combined work of chemists, biologists and clinicians.

The profession may well display a feeling of exhultation when we contemplate the rapid succession of comparatively recent therapeutic achievements in the fields of syphilis, leprosy, local anesthesia, hookworm infestation, deranged metabolism and many other conditions depending for their cure or alleviation upon the biochemical mastery of the situation. Those who have labored have also had their paths made easier by the presentation of a finished product based upon methods of exactitude rather than upon empirical experimentation.

The narcotic and habit-forming properties of opium and its derivatives have undoubtedly been the primary cause for stimulating investigations in the search for a less objectionable substitute, with the result of a rapid succession of brilliant accomplishments, and even the opening of new and unlooked for fields, none the less valuable even if they sometimes deviated from the main road of endeavor. When we consider that since the introduction of chloral by Liebreich in 1869, sulphonal appeared in 1884, trional and tetranol in 1888, veronal in 1904, proponal in 1905, and finally luminal, together with many others of varying therapeutic value, we can realize the intensive exploration of this field. The obstacles always confronting the investigator were toxicity and addiction and the production of untoward symptoms that would interfere with the therapeutic effect.

Drugs of the Methane Series

The drugs of the methane series bear considerable similarity to each other in their general physiological manifestations, varying from a slight anodyne effect to sleep, stupor, coma, and, in overdose, death. While it is true that they each have their individual value, none of them has attained that minimum of risk which is the ultimate goal. Therefore, the advent of these drugs was subjected to the proper reserve with which the medical profession has met all innovations in therapeutics, preferring to err in the direction of omission, rather than of commission, and largely actuated in its final conclusion by the source and character of clinical experience and substantiation. We have therefore arrived at the stage of therapeutic tolerance and conviction, not by experiencing the fact that a drug is efficient for a given purpose, and then ascertaining why, but by logical reasoning from biochemical premises, where possible, removing previous errors, correcting erroneous hypotheses and obtaining the finished superstructure upon the foundation of experience.

It was therefore with this natural reserve that I regarded allyl-iso-propyl-barbituric acid chemically combined with amidopyrin, marketed as allonal, and concerning whose therapeutic value I have been informed by a paper of Dr. M. A. Burns,[1] associate in nervous and mental diseases in the service of Professor Francis X. Dercum at the Jefferson Medical College, read before the Philadelphia Neurological Society, and the interesting and convincing reports contained therein of the cases of Drs. A. C. Messmer, Leopold Steiglitz, Frank Wright, and others. It is therefore also opportune to consider this drug as a substitute for opium as a remedy for producing sleep due to pain, and at least with a minimum of, if not exempt from, the two chief obstacles, toxity and addiction.

Some Cases

My personal experiences, cautiously obtained, have, in the brief period since the publication of the above mentioned paper, been limited to four cases, with results so striking as to justify more extensive clinical investigation. One was a case of chronic inflammatory glaucoma with such severe pain that morphine failed to produce sleep, and in which one allonal tablet had a slight effect, two a pronounced effect, and three produced sleep lasting for seven hours. The second case was one of cellulitis of the neck, apparently from deep streptococcic infection of the tonsil, in which, after two allonal tablets, the patient obtained the first refreshing night's sleep for months. The third case is a member of my own family suffering from obscure though severe pain referable to the kidney, in whose case morphine has never been employed, and who has obtained sleep repeatedly for a whole night after one or two allonal tablets. The fourth case is one of obscure and very severe headache, paroxysmal in character, with as yet undetermined diagnosis, but which has been markedly relieved at various times by allonal.

The Gradual Development of Synthetic Hypnotics

From the introduction of the aldehyde derivative sulphonal, and its congeners, trional and tetranol, to the appearance of the newer products, there has been more or less inclination to take advantage of the fact that molecular changes were necessary for the desired chemical construction sought for, and that this might be more important than the actual physical properties of the finished product. The relative interdependence of the toxicity and absorbability of the alcohol division, depending not upon their actual toxicity alone, but upon their solubility by various fluids of the body, gave much food for thought. In the case of the methane series it is known that they are most soluble in cholesterin and lecithin, and hence the subject of greater affinity by the nerve cells than they are by the more aqueous media in the blood, thus tending to accumulate in that structure of the body upon which they are desired to exert their effect. We are indebted for this fundamental conception to Meyer[2] and Overton,[3] which has been expressed as the Meyer-Overton Law,[4] substantially as follows: The physiologic-chemical activities of the hypnotic groups are principally determined by this theory, which associates the hypnotic efficiency with the lipoid solubility of the narcotics, and according to which the narcotic potentiality is directly dependent upon its partition coefficient; that is, its narcotic property increases with its lipoid solubility. This can, it is claimed, be proved experimentally by molecular changes, and has apparently established the chemical affinity of the cells of the nervous system as the primary goal for the control of clinical narcotic potency. The groups, therefore, imparting narcotic properties are potential in that respect, proportionately to the ability of the chemist to regulate their lipoid solubility, either by substitution or variation of the individual radicals.

What appeared to be the best group of hypnotics from which to choose for a basis of further investigation, were the derivatives of barbituric acid, a step further bringing the investigators to the alkyl-barbituric acids, which according to Tiffeneau,[5] and quoted by Burns (1. c.), are combinations of marked hypnotic power and a relatively small lipoid solubility. Should, however, the alkyl-radicals be so changed as to increase the otherwise small lipoid solubility, it follows that if this theory is true, that the hypnotic power of the substances can be increased, the accuracy of which has been shown in a series of systematic experiences in the domain of synthetic chemistry.

All this, however, while fundamentally important in the successive progress of the pharmacology and chemistry of the hypnotics more recently produced, failed to incorporate the remaining and long-sought-for requirement, viz., safely to produce sleep in affections due to pain, which hitherto almost invariably necessitated the employment of opium or its derivatives. This was finally undertaken by the chemical incorporation of an analgesic molecule into the molecule of allyl-iso-propyl-barbituric acid, thus making a double salt with amidopyrin, imparting to it not only the property of producing analgesia, but likewise accentuating its normal hypnotic power. Therefore, as mentioned by Burns (1. c.), allonal is a synthetic hypnotic which, like morphine, simultaneously develops hypnotic and analgesic effects, and over and above that alkaloid, possesses the advantage of being relatively feebly toxic.

Chemical Properties

Allyl-iso-propyl-barbituric acid is a yellowish crystal of bitter taste, very slightly soluble in water,

easily soluble in alcohol, neutral in reaction, and readily forming soluble salts with the alkaline. It is a hypnotic of the barbituric acid series which includes, among others, veronal and luminal. In small doses it is claimed to act on the central nervous system, inducing sleep without any noteworthy depression. The desired effect is produced by doses half as large as those required with the other known hypnotics of this series, and even when larger doses are given, unpleasant by-effects are absent.

The primary action of allonal is that of a depressant to the sensory nerves. There is no reported effect on respiration, nor any apparent depressant action on the circulation in a state of health. It has no hemolytic action on the blood, and is eliminated by the kidneys.

The clinical value of this group of drugs includes: 1, the production of analgesia without sleep; 2, the production of analgesia and sleep without narcosis; 3, ambulatory treatment for pain of neuritides, myalgias, cardiac diseases, sinusitis, etc.; 4, mental excitement in the insane; 5, dysmenorrhea; 6, pain where the cardinal symptoms should not be masked, as acute abdominal conditions, mastoiditis, etc.; 7, obstetrics; 8, pain in inoperable cases, in the moribund, and tabetic crises; 9, pain in iritis, and glaucoma; 10, drug addiction; 11, before operation; 12, dentistry, to allay nervous excitement; 13, before or after reactions from intravenous injection; 14, functional nervous diseases; and 15, as a preliminary sedative before local anesthesia, and for pain following operation under general anesthesia.

Drug Comparisons

In comparing allonal with opium, neither drug has much influence upon the circulation in small therapeutic doses; but unlike morphine, this is not the case with larger doses of allonal, which does not appear to have any stimulating effect upon the pneumogastric nerves, peripherally or centrally, nor upon the cardiac muscle or the cardiac ganglia. This evidently produces a special advantage in the case of pain in cardiopaths, in whom morphine very frequently increases the blood-pressure without any compensatory assistance on the part of the peripheral arterial circulation, and easily generates addiction.

In Drug Addiction

An interesting case of melancholia and drug addiction, by Burns (1. c.), shows that a woman had been receiving as much as four grains of morphine sulphate in twenty-four hours, and where he was able to withdraw the morphine at once without any serious results after the administration of allonal, certainly justifies institutional research in those cases requiring still larger doses. Likewise in intractable headaches, where the unfortunate victim is often started on morphine, or where he has been deluged with coal-tar products, allonal may serve a double purpose, as its analgesic value does not depend upon a physical addition of amidopyrin, but as has been previously stated, a synthetic chemical transfer to the molecule of the allyl-iso-propyl-barbituric acid. The clinical substantiation remains, as well, that the amount of amidopyrin incorporated in allonal could in itself hardly subject the patient to great depression, and in addition it probably causes the least depression of any in the antipyrine class, or any drug in which the antipyrine might be modified by the substitution of the radical NH_2 for hydrogen.

No reports are as yet available regarding its influence upon convulsions. It probably will be tried in eclampsia and tetanus after the paroxysms are under control, and in small doses after severe infantile convulsions. It will certainly be much less dangerous than chloral, safer than some other hypnotics, and more prompt in its action than the bromides, while in maniacal excitement it ought to be far safer than hyoscine.

Epilepsy

The exploration of the therapeutic field for epilepsy, with the exception of the bromides, manifestly has been risky, as has also the reinforcement of the bromides with opium and other powerful drugs. Phenylethylmalonylurea, marketed as luminal, has lately been employed to an extensive degree in epilepsy, with considerable success by some, and even claimed to "act virtually as a specific." In other instances it has not been found free from danger. Allonal has not yet entered a prolonged experimental stage for the treatment of epilepsy, but is deserving of prompt trial, not only in that disease, but in all conditions characterized by sudden nervous explosions, especially if traceable to irritability of the motor areas in the brain.

So much for a general consideration of this late and promising hypnotic, possessing the additional advantage of producing analgesia and sleep without narcosis. An intensive and separate investigation of each indication in which morphine was hitherto the sheet anchor, undoubtedly will be anticipated with much interest by the profession.

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The Diagnosis of Typhoid Fever

SOME ORIGINAL ANGLES WITH SPLENDID RÉSUMÉ OF STANDARD LABORATORY ASPECTS

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The paper of Dr. Snow comprises several interesting features—it reviews typhoid fever vividly; it presents some original angles, together with a splendid résumé on the standard laboratory aspects of this undeniably important disease, a disease which, in spite of its constantly reduced prevalence, is still intermittently pandemic, endemic and epidemic practically throughout the world.—Editors.

TYPHOID HAS a somewhat varied and inconstant course, no one pathognomonic sign by which it may be recognized. It may simulate several types of diseases. For these reasons and also because of the gradual onset with symptoms pointing to the lungs, the brain, or to an indefinite combination of organs, the diagnosis is usually not made until some time has elapsed. Furthermore the disease has become less frequent; only a few cases are seen during the year, and as a result the true diagnosis is often not considered until the commoner diseases of bronchitis, grippe, headache, epistaxis, nephritis, etc., are completely eliminated. It is well that from time to time our memory be refreshed and our attention called to the existence of these diseases which, though not frequent, still occur in sufficient numbers and need a correct diagnosis. This is my excuse for presenting to you today a subject in which I have no new research to report.

Typhoid is usually considered and treated as an infection localized in the intestinal tract; it is considered that the lesion is located in the lymphoid patches of the intestines and all accompanying lesions are described as "complications" without any mention of the relationship of these complications to the original infection. It seems much simpler and clearer to consider typhoid what it really is, a septicemia. Typhoid is a septicemia with the typhoid bacillus as the causative factor just as truly as the more common septicemias, caused by the streptococcus and staphylococcus. As is the case in these latter diseases the organism exists in the blood, it is carried all over the body by the blood, it can be secured in its living state from the blood, and as a hematogenous infection it may attack any organ. The temperature chart of typhoid is that of septicemia; it is the swinging up-and-down temperature—down in the morning and up in the evening; which is so characteristic of septicemia. As such, the bacillus is carried all over the body, affects all the organs, and can be obtained in the living form from many sources, from the blood, the urine, the intestinal tract (chiefly the small intestine), also from the rose spots, sweat, sputum, spleen, gall bladder and even the muscles as uterus, heart, and lungs.

Pathology

Although the tissues of the typhoid patient are, as it seems, constantly bathed in a weak culture of the bacillus, some tissues yield to the infection much more readily than others. Chief of these are the lymphatic structures as Peyer's patches and the spleen. In both these structures the first pathology is a hyperplasia with a great increase in the lymphatic cells. This compresses the blood-vessels so that the resultant anemia causes death of the tissue, necrosis, and slough. Owing to the far richer blood supply in the spleen, the process there is not so extensive as in the Peyer's patches, although the spleen always becomes larger and softer as a result and may even rupture. In the intestine the shutting off of the blood supply is more complete, necrosis is more extensive, and usually the entire patch must slough off into the intestine before healing can follow. The resulting ulcers are lengthwise rather than across the intestine—a fact which explains the absence of intestinal obstruction from contracture of scar tissue in healing. The mesenteric lymph glands show the same process.

The liver is always affected. This organ becomes hyperemic, swollen, tender and shows small areas of necrosis throughout. The bacilli are evidently excreted in the bile and often collect in the gall-bladder. The kidneys are similarly affected—occasionally the areas of infection going on to abscess formation. Usually the clinical picture is one of

* Read at a clinic given by the staff of the Hospital Notre Dame de Lourdes to the Manchester Medical Society.

nephritis of varying intensity. The organisms may rarely cause an endocarditis. They abound throughout the gastro-intestinal tract including the mouth—pharyngeal ulcerations often being seen.

From these few illustrations one sees how far-reaching is this typhoid septicemia; all organs are directly involved and abscess formation anywhere in the body may occur.

Apart from the actual growth and development of the bacteria there appears to be one other factor of injury present: I refer to the toxin formation and the resulting toxemia. The toxin seems to be formed only by the destruction and decomposition of the bacilli. It is for this reason that the strong and husky individual often succumbs while the small and weak man survives. The powerful man with his marvelous power for destroying pathogenic bacteria seems to kill them off in swarms and is, unfortunately, overcome by the resulting toxemia. The weaker individuals who can only destroy them more slowly are apparently able to take care of the resulting toxin, as it is much less in quantity. The heart and brain—with the well-known stupor and delirium—are the organs most affected by the toxin.

Symptomatology and Diagnosis

The typical case is rare in typhoid. The temperature is gradually increasing for several days; the high see-saw temperature lasting two or three weeks followed by a gradual drop. During the first week one usually has headache, often bronchial symptoms, sometimes epistaxis and diarrhea. Toward the last of the week or into the second week one gets rose spots, large spleen, and torpor. Diarrhea, tympanites, abdominal pain and even perforation or hemorrhage may occur at this time. The third week shows an increase in the severity of the symptoms—weakness, loss of flesh, diarrhea. At this time, lung involvement, marked delirium, myocarditis, perforation, and hemorrhage are the bad signs. In ordinary cases the fourth week shows the beginning of improvement.

In diagnosing, we must always hold in mind the fact that the "typical" early signs of typhoid are, as a rule, not present. Headache, by far the most common initial symptom—occurred in 74 per cent. of the cases. On the other hand diarrhea which so many associate with typhoid occurred only in one-third while one-sixth were constipated (Osler). The famous epistaxis was only found in about one-fifth. With so few striking symptoms early in the disease it is not surprising that the diagnosis is usually made rather late. Continued fever, rose spots, and the laboratory data are most important for diagnostic purposes.

An Illustration

In this connection let us consider the story of a man which is, in many respects, typical. The past history is unimportant, the man being a healthy individual without previous sickness. His immediate family are all living and well, and his habits are good; being limited to three cups of coffee in the morning, two cups of tea at night and five cigarettes during the day. The case appeared to be sporadic, entirely independent of epidemic or definite source, as the man had not been outside his town and there were no similar outbreaks at the time. With the exception of a little tired feeling towards night after a full day's work he had been in excellent health.

One morning about three o'clock he woke up with a cold, chilly feeling. Thinking nothing about it he got an extra blanket and went to sleep again. On getting up at six he noticed a headache and dizziness, but as he had been subject to occasional headaches for years he thought nothing of it. Although he did not feel well, he kept up and about till noon, hoping that the trouble would wear away. His appetite was poor and he ate little, but aside from a headache and a cold feeling he complained of nothing.

The next day he called in his doctor on account of the headache. In the presence of fever, headache, slight cough, and no other striking symptoms a diagnosis of grippe was made. At first he was constipated and never had marked diarrhea. For ten days the symptoms remained as above, the temperature varied between 103° and 104° and he stayed in bed under treatment for grippe.

After two weeks the condition did not seem to be clearing, a slight cough persisted with diffuse subcrepitant rales in the lungs, and at the base of the right lung appeared some dullness and distant voice sounds. Also the patient, although not delirious, had a marked impairment of memory. A consultant was called in and empyema was diagnosed. However an exploratory needle failed to show more than a few drops of fluid. A second consultant was called. In addition to the findings above mentioned the patient showed large, irregular and reddish spots over the entire body and even on his head—these looked almost like measles and had been considered incidental. The second consultant thought them atypical rose spots, a tentative diagnosis of typhoid was made, and nineteen days after the onset the patient was sent to the hospital. Widal proved positive and x-rays showed nothing of importance in the lungs.

During his sickness the patient felt no pain or discomfort—simply had no appetite, wanted to sleep, and had poor memory. Treatment consisted largely of nursing care, cold baths when temperature exceeded 102°, and a diet of about 55 ounces of milk, 1½ ounces of sherry wine, with occasionally some chicken broth. Towards the twenty-sixth day in the hospital or after he had been sick in all six weeks, the tem-

perature having been normal for several days, his diet was increased.

The next day the temperature sailed up and a real relapse came in. The relapse resembled the original infection and lasted a bit over two weeks when the temperature came to normal and stayed there. Since then he has been on regular diet, has been very hungry, and has been rapidly gaining strength and weight. During the sickness he lost thirty-five pounds, fifteen of which he had regained before leaving the hospital, and three weeks later he was within five pounds of his original weight.

The only complication, except the relapse, was a subperiosteal abscess over the right tibia. Toward the last of his first infection the patient began to notice a pain in the leg. At first this took on sharp exacerbations and later became a dull pain. About the fortieth day after admission and toward the last of the relapse his leg began to swell "like a boil." It was now tender and the pain had become continuous. The swelling at first small, gradually became larger and finally was distinctly fluctuant. It was incised, much pus expressed, and packed with iodine gauze; good repair followed.

In many ways this is a typical case showing also the rarer forms of relapse and abscess formation. The temperature showed the typical septic appearance of low in the morning, and high in the afternoon, as well as the typical reduction by lysis. On the fortieth day when the temperature had almost regained normal there was a peculiar and sudden rise of five degrees which at once returned to normal; this was probably due to mental excitement following the receipt of bad business news.

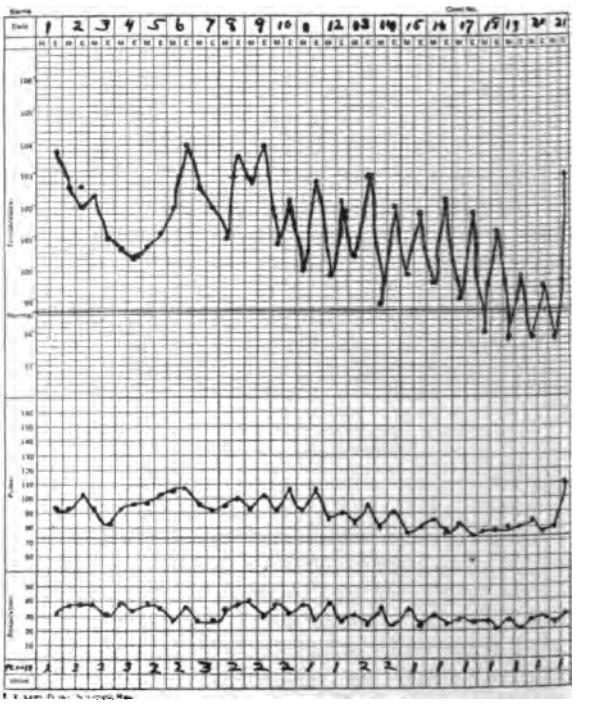
Laboratory Findings

Now for a summary of the laboratory findings. The Widal was positive (sputum negative for T. B.). Throughout the disease the urine was acid and showed a varying amount of albumin, uric acid crystals, white blood cells, red corpuscles, hyalin casts and motile bacilli. The phenol sulphonephthalein test agreed with these findings in showing some moderate renal involvement, for the results were 15% in one hour on the 12th day (in the midst of the first sickness) and 45% in two hours on the 54th day. These results are no more than one would expect and no further comment is needed. The blood picture on the 20th day of the disease (11 days after entrance) showed an extremely slight anemia—4,920,000 red cells, and a white count of 5,200. The hemoglobin was 70% and the differential shows polys 48%, large mononuclears 23%, small mononuclears 29%, eosinophiles 0, and basophiles 0, coagulation time 6 minutes. A bit less than eight weeks later (54th day) the hemoglobin remained 70%, the anemia was slightly greater (4,310,000) and the white count 8,800. Differential at this time was, polys 63%, small mononuclears 31%, and large mononuclears 6%. The anemia was not as great as one would expect from such a protracted illness—otherwise the findings were normal for the disease.

Obsolete Tests—Bacilli In Blood and Excretions

The diazo reaction is obsolete, as is the test belonging to the same group, the Russo.

Early in the disease the best and often only certain method of diagnosis lies in finding and isolating the bacilli from the blood stream, or some of the excretions. If search is made in the blood about 1 c.c. is taken aseptically from a vein and added to 100 c.c. bouillon. This great dilution is necessary to overcome the natural bactericidal activities of the blood, for in a greater blood concentration the natural protective power of the blood would kill the bacteria and no growth would occur. Naturally this great dilution in itself is a handicap in obtaining good results. To overcome this, where greater accuracy in technique is possible, killed typhoid bacilli or the filtrate from typhoid cultures after autolysis are added to the blood drawn. These take up the specific amboceptors of the blood and prevent the bactericidal action. In these cases the blood need be added to only 10 c.c. bouillon. If typhoid bacilli are present (as they can



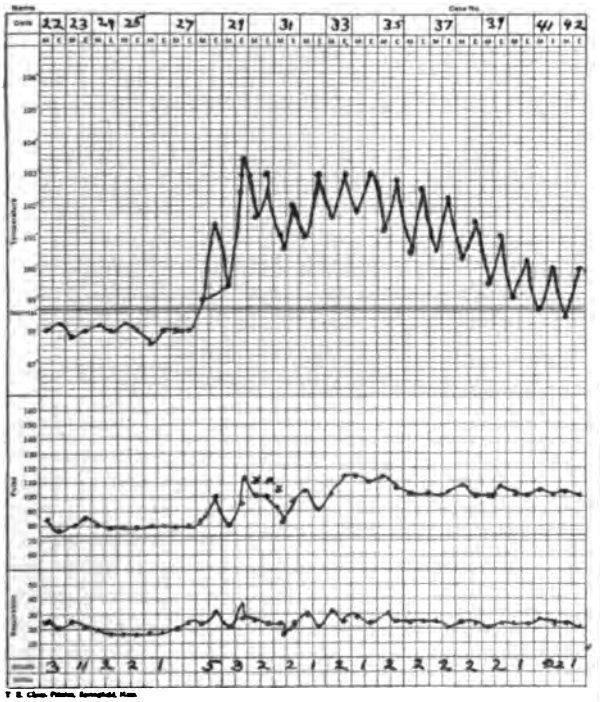
be found in 70% by this refined technique), after 24 to 48 hours there is a diffuse turbidity in the bouillon. If sterile the blood corpuscles fall to the bottom while the supernatant liquid remains clear;

and if streptococci are present the blood is usually laked owing to hemolysis. In cases where feces, urine, etc., are examined, plating on endomedium is usually done (10 gms meat extract, 10 gms peptone, 5 NaCl, 5 c.c. of 10% alcoholic solution fuchsin, and 25 c.c. 10% solution sodium sulphite.) On this medium typhoid colonies are colorless while colon bacilli appear red.

Specific Tests—The Widal

Among the specific tests which depend on anaphylaxis or agglutination of the definite bacillus are the Bordet-Gengou, the Chantemesse, and the more common Widal.

The Bordet-Gengou test is bio-chemical and rests

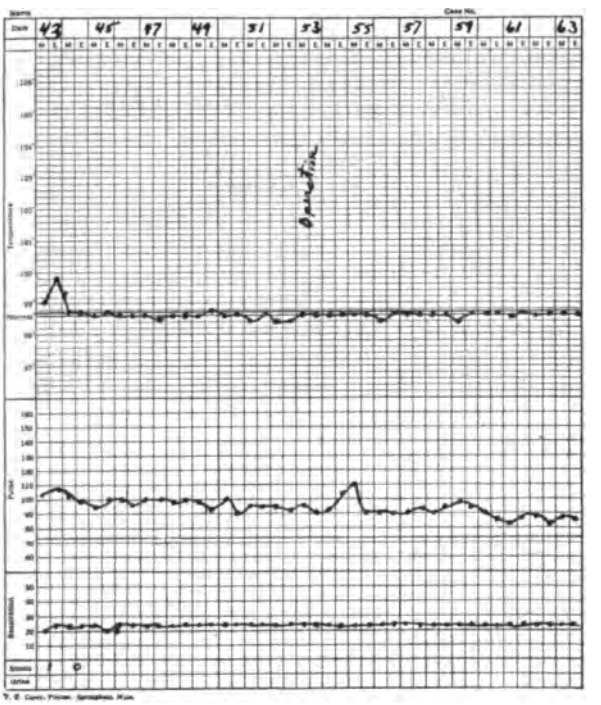


on the complement fixation principle, discovered by Bordet and Gengou and imaginatively explained by Ehrlich. Although accurate, this is a complicated method and on this account is rarely used.

The Widal is the most convenient accurate test and therefore the most widely used. Of this there are two forms: the microscopic and macroscopic. In the past the microscopic method, where a few drops of live typhoid bacilli and patient's serum are mixed in various concentrations and observed under the microscope, has been most popular. The common dilutions used are 1:10 and 1:50, and in positive cases agglutination takes place in the weaker dilution within an hour. Normal blood serum will often agglutinate the 1:10 dilution.

The following macroscopic method used by Dr. Dwight O'Hara in a recent epidemic in Waltham, Mass., is a valuable, efficient and simple process. It is more recent and is fast becoming popular. The only equipment necessary is 10 test tubes about 1 cm. in diameter with a test tube rack; a 1 c.c. pipet graduated in tenths and a water bath. The reagents used are serum from the patient, normal salt solution, and an antigen which may be a bouillon culture of living organisms, a suspension of killed bacilli, or the usual typhoid vaccine—in the latter case one must bear in mind the possibility of the antigen containing also the para-typhoid organisms. The test is carried out as follows:

The ten tubes are placed in the rack: in the last 9 of these ½ c.c. of saline is placed, using the pipet to measure. In the first tube one places 0.9 c.c. saline and 0.1 c.c patient's serum which are carefully mixed. This gives 1:10 dilution. After mixing, 0.5 c.c of the mixture is put in tube 2 and thoroughly mixed, after which 0.5 c.c. from tube 2 is placed in tube 3. This process is continued through tube 9, but none is placed in tube 10, which is used as a control. After this process has been performed each tube contains 0.5 c.c. of a mixture of patient's serum and salt solution, the concentration varying from 1:10 in the first tube, 1:20 in the 2nd; 1:40 in the 3rd, down to 1:2560 in the 9th. Now to each tube, including the control, add ½ c.c. of antigen, that is killed typhoid



bacilli. This doubles the dilution and gives 1 c.c. in each tube—the concentrations now being half the previous strength, or 1:20, 1:40, 1:80, 1:160, 1:320, and

so on to tube 9, which is 1:5120. These are then placed on a water bath at 40 to 45 degrees C. for two hours when agglutination takes place in positive cases. Agglutination is shown by flake-like masses settling to the bottom leaving a clear supernatant liquid, while the negative ones remain cloudy.

The advantages claimed by the macroscopic method are: 1, it eliminates the use of living cultures; 2, it is more accurate; 3, it gives greater precision of dilution with more sharply defined end-point; 4, it gives quantitative titre readings.

Let us consider each of these factors by itself. The elimination of living cultures is a great blessing, as such cultures are not only dangerous but they are hard to obtain. The suspension of dead bacilli may be shipped from distant sources and may be kept on hand as stock. This makes the Widal available in many places where before it could not be used.

Accuracy of the Tests

Next as to accuracy. By the microscopic method only two dilutions are common: 1:10 and 1:50, and of these the 11:10 agglutination is often present in normal serum. Hence, microscopically only one concentration for typhoid is commonly used. Macroscopically a great variety of dilutions is present and the concentrations giving agglutination can be recorded and measured. Furthermore the end-point is more definite and there is less chance of error, for microscopically it is often uncertain whether there is agglutination or merely a chance grouping together of the bacilli. With the macroscopic method, however, there is no uncertainty; it is the difference between a precipitate and a suspension.

As to the dead cultures vs. living culture. Inasmuch as the bacilli take a passive and not an active part in the phenomenon of agglutination the dead organisms are as effective as the living. Agglutination *per se* does not kill the bacilli and densely agglutinated clumps of bacilli will grow. The degree of motility cannot be considered as an indication of agglutination for this varies more with the individual culture and the temperature under which the test is made than it does upon agglutination; loss of motility is not an evidence of agglutination.

The last two advantages are directed to the same conclusion, namely, to make a qualitative test quantitative. By this method we not only say we have a positive Widal, but we can also say agglutination occurs between 1:160 and 1:1280, for example. This is important not only in studying the course of the disease, but even in diagnosis, a fact which is not generally appreciated. As an illustration, let me cite a patient seen by a noted physician during the Spanish War. This patient had a positive Widal and was diagnosed as typhoid. Later it was determined that he had malaria, but having had typhoid years before, his serum still contained typhoid antibodies. When we consider that these antibodies may stay in the blood for an indefinite time after the disease itself or even after prophylactic vaccination and when we consider that during the past war typhoid vaccination was nearly universal, we must not be surprised to find positive Widals quite common among the population regardless of health or sickness. In other words, a positive Widal is not conclusive evidence of typhoid any more than a negative Widal rules out typhoid. A positive Widal means simply that the patient has come across the typhoid bacillus; this may be as a present disease or it may have been some time in the past. But, and this is where the macroscopic method is valuable; a change in titre shows that the encounter with typhoid is present and the body is struggling with the disease right now. For instance, on one examination, agglutination may occur between 1:80 and 1:320, while a week later it will agglutinate up to 1:1280, this person definitely has the disease, for he has more antibodies than before.

Another very puzzling phenomenon is the serum which agglutinates in weak dilutions, but which will not agglutinate in strong ones. It is possible for a serum to agglutinate between 1:80 and 1:640, but not to agglutinate at all in 1:10 to 1:60 dilutions. A serum of this kind under the microscopic method of 1:50 dilution would be classed as negative, whereas the more extensive macroscopic method would make it positive and give us the diagnosis.

The time of appearance of the positive Widal varies, but is usually not found early in the disease. One does not expect it until the second or third week, and in some cases it is not found until after the fourth week of the disease. Hence a negative Widal early in the sickness does not mean that the patient is free from typhoid. Early in the disease when the Widal first becomes positive, one expects low titre reading, the higher titres coming usually between the fourth and eighth weeks, after which they decline again.

Prognosis

Now as to prognosis. Although it is felt that a case showing a rising titre is favorable while one showing a fall in titre is of bad prognosis, this cannot be strictly followed. The test tube never can attain accuracy in dealing with the intricacies of human cells. It has been found that less than half of the cases can be prognosticated by such means. The reason for this is that many factors other than that of agglutination enter into the disease of typhoid. Chief among these is toxemia; and agglutination does not measure the damage done by the toxins on the heart or kidneys. As in surgery, one is apt to consider an operation "surgically successful" when the patient seems to rally from the knife only to die of a complication the next week. Similarly, one is apt to think that if the ability to agglutinate the bacilli increases the patient should get well. So he should, but often the toxins have in the meanwhile so injured the heart and other organs that he cannot survive. A serious illness is a complicated affair and the improvement in one respect does not necessarily mean improvement in them all.

Can Obstetrical Conditions Be Improved

IN

Rural Communities?

By MAYER SHOYER, M.D.,
Soldier, Kansas.

The country practitioner is forced by conditions to be a really resourceful obstetrician. In the cities, where hospitals and specialists abound, the general practitioner usually attends so few obstetrical cases that he never becomes really skilled.

We believe in modern obstetrical teaching and practice, as set forth in modern textbooks. In necessarily modified form, thousands of country practitioners are living up to these teachings. The propaganda Dr. Shoyer condemns is a gratuitous libel against the hard-working country doctor, who could give points to ninety per cent. of the city practitioners who attend an occasional obstetrical case.—EDITORS.

SHOULD the above title read "Do we dare do obstetrical work in rural communities?" If we would believe some of the articles we read in the popular monthly magazines, some of the magazines that are not so popular, and some of the so-called magazines that have absolutely no license to exist, and once in a while in an ultra-scientific medical journal, that it is nearly impossible to carry to a successful issue labor cases in the country, we must answer, we dare not do it. Their articles nearly demand a hospital and obstetrical specialist unless one would lay himself liable to a criminal prosecution. Some articles are written to swing public opinion so that the expectant mother will want to avail herself of a hospital and a specialist; others are written by natural born fanatics and by others for self-profit. Some are written by nurses who really are very nice writers, but very poor obstetricians.

As far as the rural practitioner is concerned, I believe many of them would welcome a central hospital (county) and turn over all obstetrical work to some one man, provided he was a real specialist and experienced as such. There are many so-called obstetrical specialists in large cities, who take any and all kinds of other work and couldn't do a Cæsarean section, a pubiotomy or other surgical work. But in an emergency, when the patient cannot be taken to the county hospital on account of an eclampsia or hemorrhage, the man specializing in obstetrics should respond to these calls, irrespective of the distance, especially in January or February, when old Fahrenheit is down below zero. I say, for my own part, bring on your specialist for the country work; but will the fees of the specialist be as low as the country practitioner has to accept? I'll say they're not.

What Happens In the City

Are all women living in the larger cities delivered by obstetric specialists and in the hospital? Why of course not. Do any cases in the cities ever die from accidents incident to labor? As yet, I haven't heard of the abandonment of their last resting places. So I take it for granted that they do have some deaths in the large medical centers, the same as they do in the rural communities.

Certainly obstetrical conditions can be improved in country practice; it can also be improved in city practice. But, oh, the educational campaign it will take!

Isn't it wonderful the lot of words that a non-medical magazine writer can put together and then say nothing? The majority would convey the idea to all women who live in the country or smaller towns and do not have the care of a specialist in this particular line, that they are truly up against it and disaster will follow, certain invalidism; many will die from puerperal infection; they will go through life with perineal tears that have not been repaired, and the remainder will be condemned to a living hell. Maybe so, but it would be a "heads I win, tails you lose" bet that only a small porportion of city dwellers have the care of obstetric surgeons and another small proportion go to hospitals. Some obstetricians who have written articles in monthly magazines on this subject have what may well be called "one-track minds." They are brilliant theoretically in their specialty; they are generally your city society doctor; if anything goes wrong they call a *real* working physician in consultation. Put them in country practice, depending on their own resources, meeting

all branches of practice and frequently under adverse conditions, and they would soon fall by the wayside.

Do you really think that civilization has advanced as regards obstetrical technique for the rank and file of women beyond that of twenty years ago? Witness the midwives, chiropractors, voodooism, mental healing, and goodness knows what else. What is the answer? Education; and this doesn't mean by a few wise fat old ladies and fanatically inclined men reformers who are ever ready to reform the world, but by sane, able, and broad-minded persons. Every community must be supplied with such persons and education started; until then no progress will have been made.

Perfect technic cannot be carried out in rural practice, except in a few instances. Practically all of our cases of obstetrics are seen for the first time when the hurry call is made; quite a few are entire strangers. A few put themselves in the care of their family physician in the early months; the majority do not. Some lay writers would convey the idea that all expectant mothers in the cities are given pelvic measurements, urine examinations, blood-pressure readings, and if so unfortunate as to have to be delivered in their own home, the room to be used must be fumigated and all woodwork and furnishings scrubbed with soap and water, the patient bathed and shaved, and the presenting parts made surgically clean. But I don't believe it, do you?

A real obstetric specialist, in private and hospital practice, on high-class patients, may do so; real obstetric specialists are fully prepared to handle this class of practice and their compensation is commensurate with their efforts. But they also handle their non-pay hospital practice in the same way; they are the real specialists—they do not pretend, but deliver the goods.

An Awakening Needed

The day may come when the masses will awaken to the fact that obstetrical work demands as careful attention to all details as does general surgery. I will venture to say that if all country doctors would insist on shaving or clipping the pubic region and making preliminary measurements, the patient would not allow it, or we would lose that family and their neighbors. We would be "putting on." Unless all practitioners insisted, it would be obstetrical suicide for the exceptional one who did. Is it not a fact? I know one doctor who has quite a reputation as an obstetrician. Why? Because of the fact that he does not expose the woman, but delivers under the sheet or blanket, doesn't use gloves, and *always washes and dresses the baby*. This is frequently called to our attention, because it makes a great hit with the mothers; but of the one who uses a sterile gown and gloves, and prepares his patient, you hear nothing. You don't believe it? Well it is all too true in most small towns. Investigate your own community and see.

A country doctor works under disadvantages. A long trip to the country; frequently the patient is seen for the first time and all kinds of things turn up, from persistent occiput posterior to transverse presentations; occasionally no help can be obtained. The responsibility is too heavy and many country doctors break under the strain. In sparsely settled communities it is a dog's life and no wonder that as soon as a country practitioner has accumulated a little of this world's goods he wants to move to a city. Right now, all over the country, the small towns are losing their physicians. I know of one large city nearby where all the surgeons and other busy men refuse to take obstetrical work, except for their very best friends or for high fees; they claim it takes too much of their time and interferes with their night's rest.

A British writer states that a forceps delivery must never be conducted in unsanitary surroundings. What does he mean? Does he refer to the London hospitals and White Chapel district or to the comparatively clean rural homes of America?

He also states that the evacuation of large pieces of placenta and efficient antiseptic irrigation of the uterus should be practiced in the early stages of infection of the placental site. Who is so negligent as to leave large pieces of placenta? Surely not the obstetrical specialist; we know it wouldn't be a country practitioner. Also, what is the efficient antiseptic that he uses to irrigate the uterus to clear up infections of the placental site? Is there not some danger connected with uterine irrigations, and is it used daily, and in what manner does this efficient antiseptic kill these little germs? Are they trained bacteria and die to order or is this only a figment of his imagination?

Obstetrical Actualities

The disagreeable features of a country practice are well illustrated by the following:

Woman, age 34; first pregnancy. In the seven and one-half month called to find out why her face and legs were swollen. The sp. gr. of the urine was 1001 and the blood-pressure was 180. She was plainly told what to expect. She was put in bed, given skimmed milk diet, sweats, and magnesia sulphate ordered, and if no results in ten days to bring on labor was advised. As they would not consent to having anything done at the end of that time, I dismissed the case, telling the husband I would not assume the responsibilities if the case was allowed to go on. In sixteen days from the time she called at my office, she was delivered by a friend of mine and had a very easy time, yet the blood-pressure was 180 and plenty of albumin. So you can imagine how I stand with

that family and their immediate friends? But who would have thought it? I certainly was bluffed out, and have lost that immediate vicinity for the simple reason that the neighbors do not understand why I wanted to bring on labor except to grandstand. The only thing that would have saved my face would have been the death of the patient. Well, such is life!

No one realizes more than the rural practitioner the great obstacles in the way of rural obstetrical practice. It is fierce. Do all city men doing obstetrical work take their cases to a hospital? Do you ever get an emergency call to the house for say, eclampsia, or postpartum hemorrhage, or what not? If so, what do you do first? Do you shave the patient, have all the woodwork washed, rugs moistened, walls wiped, or do you get busy with the patient?

The fees for obstetrical work in rural practice is somewhat lower than city prices. Yet the work in country practice is more strenuous, especially in the winter months, with the long cold drives, long hours of waiting, and in the face of difficulties "all by your lonesome."

Just last year we were up against it. Two eclampsias, a right shoulder presentation, a bad left occiput posterior and a breech presentation in which the head was extracted with difficulty. Everyone in the country knows when a woman is going to have a baby and if anything goes wrong "you get yours." You are censured right and left; there must be no pathological cases in a country doctor's practice. The same old saying, if they had had some one else, everything would have been O. K. A new man in a location, losing a case of this kind or having some other bad results, might as well pack up and leave. "He is a dead one."

Eleven years ago a recent graduate of my acquaintance had the misfortune to lose two new mothers from erysipelas; he had been attending at that time a case of erysipelas. Of course, there was absolutely no excuse for such criminal negligence. He lost what practice he had and moved away. But an old timer in another town lost two or three cases from the same cause, and there was very little comment. It makes a difference how long you have been located. In a large city you don't know your next-door neighbor; they do not rush over to offer assistance. They don't even know your wife had a baby.

What Is the Best That Happens In the Country

In country practice, about the best one can do would be about as follows: (I wish the editor would write on this subject, as he has enjoyed (?) both city and country practice.)

The woman is supposed to have taken a bath. If she has not done so, one of the women present will attend to that function. The presenting parts are covered with a bichloride pack 1-2000 or painted with iodine 3½ per cent. or picric acid 6 per cent., and then a large sterile or boiled cloth. The patient's gown and sheets are freshly laundered or ironed with a hot iron. Under the patient is put a large sterilized parchment paper. Boiled rubber gloves used, clean gown or coat, umbilical tapes in tubes or envelopes. Gloves boiled each time an examination is made. After the child is delivered and the cord tied and cut, the parts are covered with a sterile pad, and after delivery of the placenta another sterile pad. When toilet has been completed, another sterile pad and binder; also binder to the breasts. No visitors allowed for six or seven days. Normal cases in bed ten days; operative ones two weeks. It is not practicable to repair cervical tears in country practice, but carefully repair perineal ones.

If you will keep your hands in good condition, and by that I mean never get your hands contaminated with pus from abscesses or venereal diseases, and if you do not attend obstetrical cases when you are in active attendance on erysipelas, scarlet fever, small pox, etc., you will have a better mortality and morbidity record at the end of twenty years than a man of the same caliber in a large city.

Remember the writers who were sent to Germany by the magazines a few years ago to report twilight sleep as conducted at the Freiberg clinic; they had no scientific knowledge of what they saw or were writing about and jumped at the conclusion that all suffering was to be abolished in the expectant mother; but what a fizzle it has been! True, properly conducted it is worth while, but the manner in which it was presented to the public was quackery. How many asphyxiated babies did *you* have?

Are the majority of modern women pathological as regards labor? As society becomes more cultured and the human race more pampered and raised as a hothouse plant, will pathological labor increase?

An Editorial Note

We shiver over what we used to do and wonder how in the world we ever "got away with it." But we did, without a single maternal death. Surgical or rubber gloves were never used, carbolic acid was about the only antiseptic then commonly available; yet thirty years ago we had plenty of hot water and soap, understood the mechanism of labor, and it was a disgrace to any average doctor not to know how to use the forceps and meet all kinds of obstetrical emergencies right on the spot with the help of a neighbor woman. The average physician had several cases every month, often four or five in a week, and he became very skilled. We have done craniotomies, versions, etc., in the backwoods, and nearly lived with the patients for two or three days to pull them through. There was not a hospital nearer than sixty miles and not a trained nurse in the county. While

conditions are better now, and modern technic has very much reduced the dangers encountered, to this day the *really resourceful* obstetricians are country practitioners. In the cities, where hospitals and specialists abound, the general practitioner usually attends so few obstetrical cases that he never becomes really skilled, and many practice for years without ever doing a high forceps delivery. No wonder there is much poor obstetrics.

Yet we believe in modern obstetrical teaching and practice, as set forth in modern text-books. In necessarily modified form, thousands of country practitioners are living up to these teachings. The propaganda Dr. Shoyer condemns is a gratuitous libel against the hard-working country doctor, who could give points to ninety per cent. of the city practitioners who attend an occasional obstetrical case.—T. S. B.

Pellagra

and

The Negro of the South

By A. L. Nason, M.D.
Darling, Miss.

THE NEGRO race as a whole, is the poorer one and must look mostly to the white man for teaching and better care. Negro schools are being made good and in accordance with progress in civilization. We find the average negro careless and indifferent, as the height of his ambition is for something to eat, a place to "stay," as he calls it, and he will get all the sleep he wants irregularly; consequently, he is a man without system, taking everything opposite to the whites; he is going to church when the whites are returning, eats the first meal of the day "way up in the morning," etc. He is ill concerned about what he eats, just so it's something and enough to satisfy his hunger. He usually tears out the screens in his home—"too hot," and lets in the flies and mosquitoes and thus subjects himself to filth and disease, regardless of teachings or his better knowledge. Most negroes are careless about raising vegetables and have only a small early spring garden, thus losing the major part of the vegetable vitamines.

The negro has a powerful resistance, due to his having lived so close to nature, with its constant exposures, and thus acquires a great degree of immunity to many diseases; but his small variety and sameness of diet over long periods "gets" him sooner or later, and when his vital forces give way and his superstitions (which ignorant people of any race possess) supervene, then is he in a predicament, and since the past two unprecedented years, we find him a victim of nutritional diseases, chief of which is pellagra.

Pellagra a Nutritional Imbalance

Pellagra is chiefly a nutritional disease no matter what the cause, whether from lack of diet, common worms and uncinariasis, etc., or wilful lack or ignorance in the balance of the daily diet, for thus it resolves itself into an alimentary, a skin and mucous membrane trouble from denutrition and a general physio-chemical imbalance of the body chemistry and is akin to if not quite the same as berri-berri and other kindred nutritional troubles and the treatment is accordingly.

Now the chief diet of the negro and poor whites is what is commonly called "sow-belly"—the cheapest hog meat—compound lard, poor molasses, meal and flour, the latter of the self-rising variety, some sugar and a great deal of rice. Some do not have all I have mentioned. Read the above list again and note what is left out, and you can readily join me in the common conclusion that pellagra is undoubtedly a nutritional disease complicated, at times, with infected bowels from worms, etc. They all have one or more sorry dogs to the family, hence the worms included in their filthy regimé.

Do the wealthy of both races ever have pellagra? Sure! But inquire into his or her dietary and you will find it unbalanced, and they leave out important articles with the explanation, "I don't care for or 'love' it."

Treatment

How would you treat pellagra? Just as I have done successfully for ten years. Examine the feces for any kind of infection, and treat it, and feed the patient a balanced diet. I try to leave out, for awhile, what he has been eating and give him a balanced ration of what he has not been eating and give him chlorin and iron and arsenic. You find the pellagra chlorin-free and hydrochloric acid is needed in digestion. I give it all the time in heroic doses, with an initial clean out, and also give plenty of iron. Under this treatment the diarrhea, ptyalism, sore mouth and skin rapidly disappear. One to two ounces of Epsom salts usually promptly stops the diarrhea. If patients have ascarus lumbricoides, santonine in heroic doses promptly *cures* the patient if repeated once in six days; as long as you see a worm, save the consequent anemia, which is as promptly relieved by the iron and arsenic, if deficient in red blood corpuscles. If there is uncinariasis, the once-per-week dose of sixty to ninety grains of thymol, until the ova are no longer in the stools, will promptly cure that. If from amebiasis (I had one such), treat with emetine, and the accompanying anemia as before, and your patients get well promptly and remain well until infected again, which is rarely, but when it is strictly nutritional, you have the worst of it.

(*Continued on page* 664)

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practioner must be recognised. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

We Are Tagged, Gagged, Nagged and Dragged

TAGGING PEOPLE is an old game; it is now being carried to the ultimate. Babies get mixed in the lying-in ward and hence necklaces with plain and lettered beads are now duly strung with Smith, Martin and other names thus spelled out, and one is firmly fastened around the neck of the babe before the cord is tied, so that Baby Smith does not get mixed with Baby Martin. Thus we come into the world labeled, and we are labeled all along the way until the silver name plate adorns the coffin.

There seems to have been a special penchant for tagging the doctor—not a "tag day" once in a while, but every day he is a marked man, a fair and easy mark only too often. But it is our own fault. Long whiskers, silver stains on the fingers, a long-tailed coat, and a smell of rhubarb and iodoform used to be the distinguishing labels; now it is a thermometer case sticking up, the outline of a hypodermic case next to it, special insignia on the automobile, and a characteristic mannerism. We are not as well labeled as is the clergyman, but nearly the whole breed of us are unmistakable in a crowd.

Doctor, did it ever occur to you that it does not pay to be tagged? You enter a restaurant, "Doctor" sticking out all over, and it costs you fifty cents more to get out than if you were plain "Mister." You are in the theater, on the street, on a train, and some handy guy is wanted for free service; you are labeled and so you are "It." You register at a hotel with M.D. after your name, and the clerk assigns you to a four-dollar room and you do not have the nerve to tell him that your limit is two-fifty. So it is all along the line, the sum total of "sugar" you pay out for your label being hundreds of dollars a year. The preacher's label saves him money; your's costs you a lot. Doctors are supposed to be rich and free with their money.

Next time you go to the A. M. A. meeting make a study of the dress, manner and general get-up of the "Big" men you meet there. Most of them look like business men with just a tinge of sportiness in their tailoring, and they are just as detached from medicine and professionalism in their talk and manner as can be. They are only too glad to get away from passing out free opinions, posing and being imposed upon. It is awfully tiresome to one to be always on display. Doctor, perhaps you do not realize what a relief it would be to you to be plain "Mister" except when definitely on duty. Do you remember how tired of your uniform you became while in the army? The supposed advertising value of always looking like a doctor, always talking like one, and always being taken for one, is grossly exaggerated. One gets very little practice in that way, and the strain of acting up to the part is greater than you imagine until after you learn how much fun it is to be just a plain man among men, for men are a pretty good lot after all.

Don't Say It With Drugs

Doctors gag themselves; consequently they are gagged. The florists' slogan, "Say it with Flowers," means that the *other fellow* is to say it in that way, at so much per; the florist gets off his line of talk in the advertising pages, where lots of people hear his message. If he talked flowers to every chance person he meets he would be regarded as a pest. He must get awfully tired of roses and violets anyway. We doctors are so painfully ethical that it is wicked to get the *other fellow* to say it with drugs and the lancet, and we lecture them when they do. Consequently, we must "talk shop" in season and out of season. It is funny to get chummy with a group of good chaps in the smoking compartment of a Pullman, who are very fraternal with you until you fairly itch to let it out some way that you are a physician, when the talk drifts right away from you to the other quiet fellow who chances to make some bright remark on some topic of the day and who does not care a whoop whether they know him as a banker or not. Doctors don't know how to talk without putting a pill in it, but they ought to learn how—it would help a lot and they would not be regarded as "pills" themselves.

We so doctor our talk and drug our opinions that we are not supposed to have worth-while opinions on anything but medicine; hence, our views as citizens and men-of-the-world are discounted in advance and we are sort of out of it. Doctor, forget it! Mix in as a plain "Mister" and you will be surprised at the friends you make. There is no occasion so to professionalize our work and our talk that we are gagged by the big world full of amateurs. The medical profession would get further if we simply forgot our work soon as we have washed our hands and closed our office doors and went out as men among men.

Making a Business of Being Married

"Love is of men's lives a thing a part; 'tis women's whole existence." Just watch the career of the man whose main business in life is being a married man, for his wife nags the life out of him. She has forced him to the feminine view of love being the whole career, and it is not natural to a man, no difference how good a husband he may be. The result is that "Maggie" brings up "Father" with a club, which is bad for both of them.

Being married to medicine, having no other interests, means that you will be nagged all your life. People get the idea that the doctor is so married to his profession that he is a sort of monastic so far as other interests in life are concerned; and, oh, how they do work him! What is money to him? What is rest? What is social life? What is independence? It is nag, nag, nag—twenty-four hours of every day, Sunday included. What is "Doc" for anyway?

It would be a means of grace and a good religious exercise to swear at some of these naggers once in a while. Once the worm turns he is more respected. There is a tendency now in medicine, since it has become more of a public affair, to nag the whole collective profession. It was bad enough to nag poor "Doc," who stood for it, poor fish, but it is worse to think it one's community duty to nag the whole darned profession, and that is exactly what a lot of people are trying to do. As per usual, it is our own fault. We have spoiled the public. The remedy is obvious.

Stars and Tractors

"Hitch your wagon to a star" is good advice if you have a strong wagon built for speed. Plows are strong, but not built for speed and are *dragged*. One mule and a six-inch plow may be good enough for one-man farming, but nowadays it is the gang plow and a tractor in big farming. Both kinds of plows are *dragged*—don't forget that. One-man medicine seems to be going out of style, and gang practice in the form of group clinics is coming in. It is "Hail, hail, the gang's all here; what the H—— do we care now!" That is what the crowd pushing health insurance thought if they could get the whole medical gang hitched to their machine. If we are simply to be tools, like plows, it makes little difference whether a mule or a tractor *drags* us, for we will be dragged separately and collectively.

So our plan is to make our wagons strong and speedy and hitch them to a star, not to a political tractor. If we go star-riding a tin Lizzie medical organization will not be strong enough; we will need a machine that is just as strong as the political machine. Do you get it? Doctor, elaborate the idea yourself. Unless we do something along this line we will certainly be dragged, and it will be our own fault.

Never attempt to rupture a prostatic abscess by massage *per rectum*. If the abscess points towards the urethra it may rupture into it, and although no immediate harm is done and relief is prompt, cicatricial contraction, with resultant stricture formation, may occur later. Should it point towards the rectum, it may rupture there and a disagreeable, painful condition, with a purulent discharge from the rectum may ensue. If it points towards the perineum it may rupture into it and a perineal abscess will develop, causing needless suffering and delay and necessitating operation later. If it points towards the peritoneal cavity and should rupture into it, peritonitis and death may result. Therefore, when a diagnosis of abscess of the prostate is made, it should be opened and drained without delay.—George Livermore, M.D., *U. and C. Review*.

Vincent's Angina and Intestinal Spirillosis

Bouchet and Leroux *(Le Progrès Méd.)* relates a case as follows: A man, aged 25, first suffered from pyorrhea alveolaris, upon which there developed an ordinary case of Vincent's angina. This was in April, and in the following May there followed an attack of acute enteritis.

One year later there was a second attack of angina, after the patient was treated with salvarsan; since which he has remained free from all symptoms.

The authors cannot demonstrate that the intestinal trouble was due to the exciters of Vincent's disease, but this sequence is highly probable.

We know now to a certainty that this affection is a pure spirillosis, the fusi-form bacillus playing no rôle in causation. The spirilla as a class have been suspected before of the ability to cause enteritis. There are members which dwell in the intestine as harmless saprophytes which are probably capable of becoming pathogenic at times. While the authors use the term spirillum in a general sense they clearly refer to Vincent's spirillum, while at the same time the existence of other forms is sometimes implied. A description of the spirilla of angina and those found in the stools of subjects with enteric diseases shows both conformity and divergence.

The germ found in the mouth appears to agree with the so-called buccal and dental spirochete, while there were two distinct forms in the intestine, one of which conformed to the buccal spirochete. One faction of bacteriologists state that the spirilla of the mouth are multiform, indicating either different species or varieties, and the same may be said of the intestinal forms. Others definitely separate the dental from Vincent's spirochete. Despite the confusion in detail there is no doubt that banal spirochetes are able to set up a considerable variety of lesions under certain circumstances.

Best Current Medical Thought

Acute Abdominal Conditions in Children Due to Errors in Diet*

A large percentage of all cases of gastro-intestinal diseases in children are caused by errors in diet; this is particularly true during the summer months, when the heat and humidity of our climate will cause foods, which on other conditions are perfectly suitable, to be indigestible to the individual infant or child, causing conditions varying from acute gastric indigestion to acute gastroenteritis.

In infants the cause must be found before the condition can be cured. If breast-fed, the quality of the milk must be determined and the health of the mother must be looked into; while if bottle-fed, the question of the fat, sugar and proteid content must be studied to find which one is at fault. It will be found that the fats, in summer, cause more disturbance than the sugar or proteid, as a rule; in some cases which have not been under the care of a physician it will be found that the sugars have been much too great in amount and are the cause of the upset. Again, the quantity at times plays an important part, as the stomach is overfilled and by the motility being impaired the contents are not so quickly passed out and some remains there until the next feeding takes place; this also may happen when the feedings are too close together.

In older children overfeeding itself plays an important part, particularly in the acute gastric and intestinal indigestions; while indigestible foods, such as cake, candy and pastry, are important factors. Overripe fruit will in many instances be found to be at the bottom of the trouble. Bad milk which has been pasteurized or sterilized still retains the toxins from the bacteria which it contained before treatment and these will at times cause trouble, while unpasteurized milk which is unclean contains many bacteria which may be pathogenic and set up an acute inflammation.

The symptoms produced by these errors in diet vary in intensity, but give the same general picture. As a rule, the gastric condition first presents more or less offensive breath, coated tongue, fever, slight at first, becoming higher as the disease progresses, until in the gastroenteric forms it will reach 103° F. or over. Pallor associated with nausea and followed by vomiting, which may occur only once or twice or at times will be continuous for some hours or days. Thirst is present in all of these conditions and where the vomiting is continuous is one of the most distressing symptoms. Prostration varies greatly, according to the acuteness and length of the attack. Abdominal pain is present in all cases to a greater or less extent, depending much as to whether there is an acute inflammation or a simple irritation. Constipation for at least twenty-four hours is the most frequent condition, though there are cases in which diarrhea is present from the start. In the intestinal form of these diseases diarrhea always takes place sooner or later and varies much in the number and character of the stools; in a general way the number of stools will be from five to twenty in twenty-four hours and the character changes from containing undigested food at first to liquid or frothy, greenish yellow in color and containing much or little mucus.

The prognosis depends upon the condition of the patient when the disease starts, how long the trouble has progressed before active treatment has been started, the care with which the treatment is carried out and the type of infection which is present; in other words the more healthy the patient has been before the attack, the shorter the time before the treatment is started, the better will be the prognosis.

The general principles of treatment are the same for all conditions. Wash out the stomach, either by means of the stomach tube or by giving a large amount of salt or soda bicarbonate water by mouth to cause vomiting, which will clear out any food remaining there; this to be followed by a dose of castor oil (1-4 dr.) or calomel 1 gr. in divided doses or in one dose, or in some of the older children a dram of magnesium sulphate in a glass of hot water. An enema should now be given so that the lower intestine will be cleared out. Following these measures rest of the gastro-intestinal tract is essential. No food should be given for at least twenty-four hours; if there is little or no vomiting, water in small quantities (½-1 oz.) every half hour or so, or tea (1 dr. to the quart of water, brought to the boil and no sugar added) can be given hourly. For the pain a hot-water bottle, mustard paste applied to the abdomen or a hot mustard pack will be found useful; while in older children if the pain be gastric, small doses of phenacetin and bismuth subnitrate at times give relief. In the intestinal cases with diarrhea the same treatment should be carried out. The starvation period should not be continued for too long a time or the resistance of the child will be so lowered from lack of nourishment that it will be very hard to build it up again. For infants the start of feeding should be with a weak mixture of fat-free milk and no sugar added; at times a clear vegetable soup may be used as the diluent, as it contains considerable of the water-soluble vitamines. Sugar is gradually added to the mixture, if the condition has not been due to sugar in the first place; then a little whole milk is added and in time takes the place of all the fat-free milk. It is well not to add cream to the mixture until the baby has entirely recovered.

In older children cut out all milk for some days, letting clear meat and vegetable soup take its place; follow this by the cereals, green vegetables and light puddings, gradually getting back to the regular diet

*Abstract (Roster and Medical Digest, July, 1922) of paper read by Theodore Le Boutillier, of Philadelphia, before the Northern Medical Association of Philadelphia.

in from a week to ten days.

As far as drugs are concerned they are of little value except in occasional cases. The diarrhea is, as a rule, controlled by the cleaning out of the gastro-intestinal tract and the rest which follows. At times the bismuth preparations may be of use, but they are apt to be abused and more often cause harm, particularly if used too early. The same is true of the opium preparations. If there is much fermentation, the Bacillus bulgaricus or Bacillus acidophilus are of use.

Cyclic or recurrent vomiting is due, I believe, to errors in diet, as it has been found that by testing the child with the food proteins and removing from its diet any food that shows even a partial reaction the case can be cured in a short time; in fact, many cases that have been so treated have not had any return attack, and two children who were allowed to eat some of the forbidden foods had an attack within three days.

The Nature and Cause of Old Age Enlargement of the Prostate

Kenneth M. Walker (*British Medical Journal*) concludes in reviewing the various theories to account for old-age enlargement that it is impossible to explain it by any theory of chronic inflammation. Although enlargement may reproduce conditions favorable to the development of a neoplasm, the enlargement itself does not come into the category of true tumors. The condition is in the nature of a fibro-epithelial degeneration which finds its analogy in the female in serocystic disease of the breast. This degeneration may be regarded as an accident occurring in the progress of involution of the genital tract. The cause that determines the onset of the condition is unknown, although it is not improbably connected with a loss of endocrine balance during this period. The writer's observations indicate that injections of extract of prostate in the human being do not produce any response in the way of alteration of blood pressure, respiration, etc. He has used both autolysit and commercial preparations of prostatic extract for this purpose and has never obtained a reaction that could be appreciated clinically. Incidentally, he mentions that he has found that prostatic extract, when employed as a therapeutic measure, is occasionally of use during the early phases of enlargement, but of little benefit in the later. Answers received to a questionnaire inquiring into the incidence of prostatic enlargement in the various countries of the world brings out the fact that prostatic enlargement shows a definite distribution that is anthropological rather than geographical in character. It very rarely occurs among Mongolians or Negroes. Generally speaking, enlargement is commoner among meat eaters and those leading the sedentary lives of cities than among vegetarians and frugal livers.

The Indications for Operation in the Treatment of Injuries Involving the Brain

Donald Munro (*Boston Medical and Surgical Journal*) states that the indications for operation in injuries involving the brain are three: Compound fracture of the skull, depressed fracture of the skull, and a rise in the intra-cranial cerebrospinal fluid pressure. Patients who have received an injury to the brain do not develop symptoms and do not die from the fracture which may or may not be present in the bones of the head. They do develop symptoms and they do die as a result of the increase in intra-cranial pressure which accompanies the fracture, or which not infrequently is present in the absence of any fracture. The intra-cranial cerebrospinal fluid pressure depends on the relation between the secretory powers of the choroid plexus and the absorptive powers of the cerebral venous circulation. All cases that have received or are suspected of having received an injury to the brain, no matter how slight, should, as soon as they have recovered from their surgical shock, have the pressure of their cerebrospinal fluid measured; and the treatment should be based primarily upon this finding alone. If the intra-cranial pressure is measured, the symptoms and signs, such as pulse, blood pressure, respiratory rate, and mental state, commonly used as indications governing diagnosis, treatment, and prognosis, need not and should not be regarded in any other light than as confirmatory evidence.

Effects of Faulty Foods on Endocrine Glands

Robert McCarrison (*New York Medical Journal*) observed in feeding experiments in animals that malnutrition, whether rising from complete starvation, from the incomplete starvation due to avitaminosis, or from starvation resulting from deficiency of proteins and calories, gives rise to enlargement of the adrenal glands and sometimes of the pituitary body with an atrophy of all other endocrine structures. The functional perfection of the adrenal glands is dependent upon the balance of the food and the quantity and quality of its vitamines.

Faulty food permits the entrance into the blood of a stream of intestinal bacteria, which, acting on the thyroid, may cause congestion of the organ, desquammation of its acinar cells, and distorting of its normal acinar structure.

It is possible by the examination of the thyroid alone, with but a small percentage of error, to distinguish between those deficiently fed animals that have suffered from septicemic states in consequence of food faults and those which have not.

C. F. Hoover says, "I have been unable to see any justification for amputation of part of the thyroid gland as a direct treatment for Graves' disease."

Where there is a clinical suspicion of syphilis, but with the blood returning a negative Wassermann, proceed on the assumption of syphilis, at least to the point of giving a dose of salvarsan, or a short course of mercury and iodine. The information gained from a therapeutic test may remove all doubt. It does it more often than we think.

A syphilitic with evidence pointing to cerebro-spinal involvement should be protected from worry and unusual mental strain. Also, patients with cerebro-spinal syphilis, as far as possible, should not occupy positions of great responsibility or involving the welfare of others. For instance, no patient of this type should be permitted to serve as an engine driver.

Many syphilitic patients are careless in following instructions as to systematic dosage. This particularly holds good after the disappearance of all lesions. In view of this lack of faithfulness when treatment is put into their own hands, it may be advisable to resort to the intravenous or intramuscular administration of mercury. This secures exactness of dosage and constant supervision of treatment, highly important factors in success in the treatment of the case.—*Urologic and Cutaneous Review.*

Sluggish Bowel Action in Childhood

is usually due to errors in feeding. Subjecting these fundamentals to the customary careful correction,

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may be administered coincidentally to relieve the immediate condition.

Dosage in Children

Begin with a half to one teaspoonful, 3 times a day before meals. Increase or decrease dose until one good movement is obtained daily. Then gradually decrease to the point where a small dose at bedtime will maintain this result.

This pure, tasteless and odorless mineral oil—notably free from the greasiness common to such products—has proved of exceptional value as a safe and dependable means of moving the bowels of young children, and this without the griping, straining and after-constipation by which the use of castor oil and other drastic cathartics is so frequently attended.

The constantly growing number of physicians who prefer INTEROL to any other media in the routine management of constipation in early life is its own best endorsement.

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Is it ever *safe* to take *anything* for granted?

Take dropsy for example. Regardless of the underlying cause—cardiac valvular lesions with loss of compensation, chronic Bright's disease, Post Scarlatinal Nephritis, or what not—effusion of fluid into the tissues means increased cardiac burden, augmented circulatory stasis, resultant renal irritation and increased absorption of toxic waste. More than a mere diuretic is required.

ANASARCIN TABLETS act upon the heart and strengthen its action and regulate its rhythm.

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Such action is demonstrable. Why not convince yourself by trial?

Sample and literature on request.

The Anasarcin Co. **Winchester, Tenn.**

Varicose Veins—Hammer

Continued from page 644

The operative procedures for the cure of varicose veins are numerous and important. They include the ligature of varicose trunks; linear section of the varicose trunks between ligatures, with or without inclusion of collateral tracts by circumferential incisions; open resection of varicose trunks and secondary tributaries; subcutaneous resection.

Trendelenburg's Theory

The first of these procedures, or ligature of the varicose trunks, is inseparably connected with Trendelenburg's name. According to the Trendelenburg theory, the valves in the saphenous become incompetent because of the high central pressure. The veins of the leg distend, because they are incapable of supporting so great a column of blood and, finally, the blood begins to flow in the wrong direction in the saphenous vein, establishing a so-called vicious circle.

His first operation, about the year 1890, consisted in division of the long saphenous at the junction of the lower and middle third of the thigh. Later he modified this by placing two or more ligatures on the saphenous, one above the level of the internal condyle, the other below the knee. The vein is attacked through a short incision at right angles to its course and divided between ligatures near the saphenous opening. The operation may be accomplished by local anesthesia.

Schede's Method

One of the most valuable procedures is the method of Schede, when the vein cannot be readily removed; the object sought being to force the superficial venous circulation from the unsupported subcutaneous veins into the deep muscular trunks when these are not obstructed by previous disease. This operation consists in a circular incision completely around the leg at the junction of the upper and middle third, the incision reaching to the deep fascia. Bleeding points are ligated and the edges of the incision stitched together. Moreschi has utilized this principle in the treatment of varicose ulcers. He makes two circumferential incisions; the first of these 4 cm. (1 3-5 inches) above the ulcer, the other 1 cm. (2-5 of an inch) above the malleoli. The principle of this operation is that the skin in the immediate vicinity of the ulcer and between the two parallel incisions is completely undermined and detached by subcutaneous dissection, thus destroying the varices over an area within the limits of the cross-section.

Resection, partial or complete, was suggested by Madelung in 1884, systematized by Schwartz in France, in 1888, greatly perfected by Terrier and Alglave in 1892, and has been improved upon through the labors of Ledderhose who, in addition to extirpation of the veins, makes a series of longitudinal incisions along the inner aspect of the leg from the knee to the malleolus, in the hope of intercepting and obliterating all the tributaries lying between the knee and the ankle.

Subcutaneous Method

The subcutaneous method is the operation of choice among many of the best surgeons and the procedure introduced to the notice of the profession by C. H. Mayo,* of stripping the vein by means of a metal ring on a carrier, may be briefly described as follows:

"The long saphenous vein is isolated and divided near the saphenous opening, and the proximal end ligated. The distal end is then mobilized as much as possible by means of a long artery forceps of the Murphy type, and the ring of the stripper introduced over the end of the vein. By means of combined gentle traction on the vein with forceps, moderate forcing of the instrument along its course, and with the skin supported by the spread-out hands of an assistant, being particularly careful when the larger branches of the saphenous are encountered, it is possible in most instances to strip the vein down the entire length of the instrument. By forcibly pressing the ring outward against the skin and incising carefully on it, the vein can be picked up and brought out through the small button-hole incision, and the stripper withdrawn through the first incision. . . . If the saphenous breaks high up, the stripper is discarded and the trunk picked up through a small incision in the lower third of the thigh and there ligated. . . . A spiral incision extending from a point close to the anterior border of the tibia, continued backward and downward to a point about the middle of the calf, divides all the main branches of the long saphenous at this level . . . The second incision is made about three inches above the internal malleolus, and of sufficient length to pick up all the superficial veins in that vicinity." Further improvements in the technic have been made by W. Wayne Babcock, of Philadelphia. While Mayo's method appears the simplest, it is not adapted to chronic cases in which the main trunk of the vein remains very tortuous, forming a series of adherent, friable veins, intimately blended with the skin.

When To Operate

In deciding whether an operation should be performed or not, the dictum of Mayo is applicable: "An elastic bandage is applied from the foot to above the knee. If this bandage can be worn with comfort, an operation should give relief. If the bandage causes discomfort, it is probable that the superficial vessels are necessary to the circulation of the limb."

Statistical studies of operations on varicose veins are of marked interest. Some years since in a large

* Balfour, D. C., Minnesota, Journal Lancet, 1916, XXXVI.

The Foetus as a Mineral Parasite—

IT has been definitely established that during gestation the foetus acts as a mineral parasite.

If the mother's diet during these eventful months is deficient in mineral salts imperatively demanded for the development of the mineral structure of the child, the deficiency is made up at the expense of the mother's tissues.

This brings about a corresponding loss of vitality both for the mother and for her prospective offspring.

It is for this reason that a liberal quantity of Grape-Nuts with milk or cream will be found of value in the diet of expectant mothers; to provide an adequate mineral content in the mother's blood during the period of utero-gestation, and also an adequate mineral content in her milk during the subsequent period of lactation.

The high food value of Grape-Nuts is shown by the fact that Grape-Nuts contains 95.25% of solids, including 11.88% of protein; 78.76% of carbohydrates (of which 48.24% is soluble, as dextrin, reducing sugars, etc.) and 2.27% of mineral salts.

These salts include:

Potassium chloride	4.55%	Calcium phosphates	5.42%
Sodium chloride	34.33%	Magnesium phosphates..	24.20%
Calcium sulphate	1.96%	Iron phosphate	0.62%
Potassium phosphates..	22.87%	Silica	2.02%

Grape-Nuts with milk or cream is well suited for supplying the elements required by the developing child; it is admittedly a good all-round food for the mother.

Samples of Grape-Nuts, for individual and clinical test, will be sent on request to any physician who will write for them.

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number of cases at the Halsted clinic, 79 per cent. were cured or greatly improved. Goerlich, in an exhaustive series of cases numbering nearly 1500, reported by 42 operators, found 65 to 85 per cent. cured after ligature of the internal saphenous.

Of 256 patients at the Mayo Clinic, statistically studied and reported by D. C. Balfour, from January first, 1909, to January first, 1914, inclusive, letters were received from 161. In 68 patients the condition was associated with varicose ulcer, in 93 there was no ulcer. Thirty-nine of the sixty-eight patients (57.4 per cent.) had the ulcer cured, the veins disappeared, there was no swelling of the feet, and they were able to pursue their daily labors without pain. Sixteen patients (23.6 per cent.) reported great improvement, the ulcer having healed in the majority, but with some minor complaint, as swelling or pain after a day's work. In thirteen patients (19 per cent.) the results were definitely unsatisfactory. The ulcer had either failed to heal, or there had been periods of complete healing, followed by pain and swelling sufficient to make the prolonged upright posture uncomfortable.

Causes of Failure

Among the causes of failure after operation are want of good judgment in the selection of cases and the fault of not applying the best suited operation for the particular cases under consideraton, also lack of proper care after operation. In old varicose veins where the ulcer has remained untreated or improperly treated over a period of years, with chronic congestion and inability to exercise the muscles properly, there is a strong predisposition to flat foot, with the associated breaking down of the plantar arch and the resultant pain and disability.

Relapses are more common after the single linear division of the veins than after their complete extirpation. Alglave and Terrier report after an extensive experience with the disease, as well as from the reports of many others, that relapse may occur, and in no small percentage of cases, after extensive and complete resection. The causes of relapses of this kind are to be found under the following conditions:

1. Secondary dilatation of small superficial venules of the ligated vein, which enlarge and unite with the deep muscular veins through anastomotic branches. 2. The regeneration of veins, which is of frequent occurrence. 3. After ligation, direct end-to-end venous communication through the scar.

Although strict asepsis is the best safeguard against post-operative phlebitis, nevertheless, there is always a risk of the development of embolism in the hands of the most careful and of the most skilled surgeon. These emboli, sterile as they are, are discharged from the proximal side of the ligature to the saphenous, or from the remains of the extirpated venules, and coursing along the deep anastomotic trunks are swept into the general circulation, lodging in the lung as a pulmonary embolism.

Pellagra—Nason

(Continued from page 656)

The strictly nutritional type is hard to *cure,* but easily mended, provided finances are not in the way; but they *are* in the way these times for about nine months in the year, when they return each spring to the planter's ration of poor sorghum, "sow-belly," compound lard, poor meals and self-rising flours as the principal diets. While this trouble is menacing the progress of the farmers, they are beginning to wake up and are using a more mixed diet. The worst cases are generally those who are trying to carry themselves and not buy on credit; they are literally starving themselves without knowing it.

You will recall that the government, about 1907-8 or 9, tried out the nutritional experiment in the Mississippi State Penitentiary with twelve men, and seven developed all symptoms of the disease as reported, and they gave the twelve their liberty for submitting to the experiment.

Diet

If the proper changes in diet are made and they are treated correctly, 95 per cent. will recover, but when the anemia becomes pernicious, as we so often find it, then we are up against the inevitable.

I have treated pellagrians from eight months old to sixty-five years of age. The sixty-five-year-old ones died, and the eight-months-old ones got well promptly. I use the word promptly in both cases; the reason is evident.

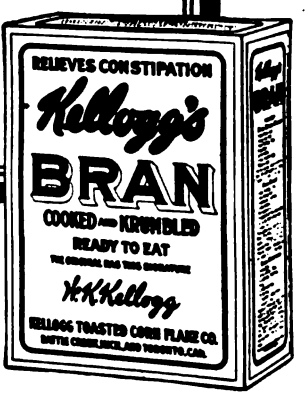
I find old cases returning earlier this year, who have returned to the unbalanced diet as before, and I have to teach them over again. It seems they are untaught and unteachable. Some return at three or four-year intervals and when I ask, "What are you eating?" they tell the same old story.

Why so much pellagra in the South? Because it's "The Land of the Mule, the Negro and Cotton," as a whole, and the people eat what they can buy, and scantily at that, and the sameness of the diet.

Now, again, where fresh milk and butter, peas, beans, potatoes, fruits and vegetables abound in families, and *they eat them* there is no pellagra, except of the infected variety. Our hilly and freestone water country once was heavily infected with hookworms, and there you would see all the pictures you commonly see in literature; but since our state-wide and nation-wide clean up, we do not see so much of it in severe stages, while more is reported because of the physician's better knowledge of the disease. It was mostly among the whites; they are more easily educated and, therefore, take the necessary precautions to prevent reinfection, but in the course of time they, too, will forget, and in a few years we shall see the same episode repeat itself.

"The poor ye have with you always"; so also will we have pellagra.

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In a natural, easy way, Kellogg's Bran, cooked and krumbled, induces better peristaltic action. When two tablespoonfuls are eaten each day, permanent relief can be confidently anticipated in mild cases. Kellogg's Bran will be found particularly valuable in chronic, old-age and bed-ridden cases, when two tablespoonfuls in some form should be taken with each meal.

Kellogg's Bran is delicious. It should not be confounded with common brans which become so irksome for patients to eat. Kellogg's Bran has a nut-like flavor and krumbled crispness that appeals to the most fastidious appetite. It may be eaten as a cereal, sprinkled on other cereals or used in countless ways in baking and cooking. Recipes are printed on each package.

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Crude Fiber	8.9
Carbo-hydrates	61.6
Calories (per pound)	1480.46

Kellogg's — *Look for this signature W. K. Kellogg*

the original BRAN ~ *cooked and krumbled*

Book Reviews

Doctors—Entre Nous

By James Bayard Clark. 66 pages. Publishers, *The Medical Times,* 95 Nassau St., New York City. Postpaid on receipt of $1.00.

In this little book are three stories. The striking feature of these stories is the combination of quiet whimsical humor and peculiar force. One is carried on a high tide of amusement to a sudden and surprising termination.

With a keen blade indeed the author pierces the shining armor of the profession and lays bare to all an easy view of some of its usually obscure faults and weaknesses.

This book should be read by every medical man where the English language is understood. We doubt if the medical profession would care to have it read too generally by the laity.

Such wit and vigor has never before been applied at once to the medical profession.

Adventures in Endocrinology

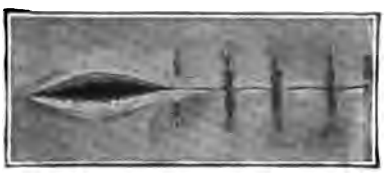
By Henry R. Harrower, M.D., Director of the Harrower Laboratory, Glendale, California; The Literary Department of the Harrower Laboratory, 1922. Cloth, pp. 159, price $1.00.

This little volume recounts in a very interesting way the get-together, in the study of the internal secretions, which led to the publishing of *Endocrinology* and, later, the adventures of Dr. Harrower in trying to promote endocrine therapy for physicians other than those who specialized in endocrinology. He has been severely criticized for making this effort. However, he has no resentment and is philosophical over these attacks.

His object in writing this book is to collate some of the attacks—to show to what lengths narrow prejudice will drive man—and then to let the reader draw his own unbiased conclusions.

He says: "I have had every reason to believe that I have been and am still right fundamentally, and have always attempted to pass my judgment with as many as possible of the facts before me. I shall be very glad if any reader, who may be interested and has any additional facts to submit, will give me proof, either unpublished or with the reference, to disprove my attitude, as it will be outlined in the following chapters."

This statement, along with his dedication ("To my esteemed colleague, George H. Simmons, who, by his opposition through twelve years, has stimulated me more than many a well-wishing friend"), goes to show that Dr. Harrower, without a doubt, wants the truth to prevail.



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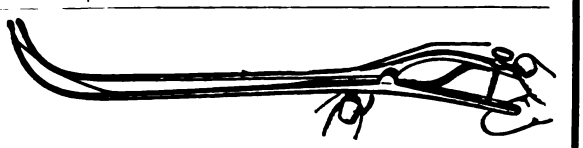
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Ringworm and Its Successful Treatment

By John P. Turner, M.D., Medical Inspector of Public Schools, Philadelphia, Pa. Illustrated by eight half-tone engravings. F. A. Davis Company, Publishers, Philadelphia, 1921. $1.00.

A brief and satisfactory review of the subject of ringworm—its history, pathology, diagnosis and treatment.

A Compend on Bacteriology

By Robert L. Pitfield, M.D., Pathologist to the Germantown Hospital, etc. Fourth edition, copiously illustrated. Cloth, 295 pages. P. Blakiston's Son & Co., Philadelphia. Price, $2.00 net.

This little book covers bacteriology, the pathogenic protoxea and the elements of immunology, giving the essential data in such form as to be useful to the student and as a review for the practitioner. Having reached a fourth edition testifies to the merits of this abridged compilation.

Radiant Light and Heat Effective

The following interesting case was reported by Dr. F. S. Holladay, of Los Angeles (Amer. Journ. Electrotherapeutics, Apr., 1921): "This case was a woman, age 35, who had been treated by an eye specialist for gonorrheal ophthalmia and was becoming worse. With the specialist's permission, I gave her one long treatment of radiant light and heat as warm as she could stand it. She returned next day and the purulent discharge had lightened. In four days the discharge had stopped and she made a very quick recovery. I asked the specialist to see the eye, and he was very much astonished, as I was. The condition was verified microscopically."

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With the thought that many physicians would welcome a reference book in which were gathered the essential facts regarding the more important therapeutic agents supplied under the Merck label, the current number of Merck's Abstracts reviews in brief form a number of important specialties, giving the composition, dosage, principal uses, etc.

Among the interesting preparations which are described may be mentioned Numoquin, which is reported to be actually specific for the pneumococcus; Eucupin, which is described as Isoamylhydrocupreine and has a very high bactericidal power, a 1:16000 solution being capable of destroying streptococci; Vuzin Dihydrochloride, another powerful bactericide having an elective action for Gram-positive cocci; Choleval, a colloidal silver preparation with a protective colloid sodium cholate for use in the treatment of gonorrhea; Propytal, which is stated to have about twice the hypnotic effect of Barbital; and Skiabaryt, a special preparation of barium sulphate "for X-ray diagnosis," which not only can be instantly prepared when needed, but which forms a stable suspension which will not settle for several hours.

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(*continued one leaf over.*)

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It is the failure of the secretory function of the bowel, together with a poor bile secretion, which, in nine cases out of ten, is responsible for constipation.

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The following case reported by Dr. F. S. Holladay of Los Angeles, Cal. *American Journal Electrotherapeutics*, April, 1921, p. 159:—

"This case was a woman, age 35, who had been treated by an eye specialist for Gonorrheal Ophthalmia and was becoming worse.
With the specialist's permission, I gave her one long treatment of radiant light and heat as warm as she could stand it.
She returned next day and the purulent discharge had lightened. In four days the discharge had stopped and she made a very quick recovery.
I asked the specialist to see the eye and he was very much astonished, as I was.
The condition was verified microscopically."

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It is the failure of the secretory function of the bowel, together with a poor bile secretion, which, in nine cases out of ten, is responsible for constipation.

In many cases cathartics altogether overlook this factor and address themselves solely to a stimulation of the musculature, and some even inhibit intestinal secretion.

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The salivary glands are not immune to the effects of constitutional conditions accompanying or following acute infections or other general disorders, nervous or glandular. They are not always up to par, yet the whole chain of digestive processes is linked with their proper functioning. Let the patient go beyond the capacity of the ptyalin-producing glands in his choice of foods or in his desire to "build up," and he starts a vicious circle of indigestion that may have more serious consequences than his former condition. Hence the call for a diastatic ferment that can be taken with the food to supplement the defective ptyalin secretion. Parke, Davis & Company

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In view of the extent to which Virol is used in public health work in Great Britain, the Bio-Chemical Laboratory of the University of Cambridge recently conducted an exhaustive investigation to determine whether the vitamines known to be present in the raw materials from which Virol was manufactured, were present in their active state in the manufactured Virol as sold to the public. The report which fully proves the presence of the vitamines in Virol will be sent to AMERICAN PHYSICIAN readers, on request. Address: Geo. C. Cook & Co., Inc., 59 Bank Street, New York.

Leader of Mulford Amazon Expedition Tells of Locating Rare Medicinal Plants

An absorbing story of the successful search for strange narcotics and new drugs which may prove of invaluable aid in the treatment of human diseases, and the determining of the botanical sources of both the genuine and spurious forms of certain drugs already partially known, was told by Dr. H. H. Rusby at a recent dinner given to the returned members of the Mulford Biological Exploration by the H. K. Mulford Company, at the Manufacturers' Club, Philadelphia.

Originally planned only as a personal testimonial to Dr. Rusby and his associates, who had carried out the work of the expedition with so much enthusiasm and in spite of dangers and discouragements, it developed into one of the most significant gatherings of scientists.

In addition to the guests of honor, there were present some fifty men, leaders in medicine, pharmacy, botany, zoölogy, as well as captains of industry.

Milton Campbell, president of the H. K. Mulford Co., who presided, reviewed the history of the exploration, its inception in Dr. Rusby's mind, the presentation of the plans to the Mulford Company, and why the Mulford Company availed itself of the opportunity to support such an enterprise. He pointed out that, throughout its existence, the Mulford Company had contributed, so far as lay within its power, toward the advancement of the professional side of pharmacy, and had done its best to disseminate information concerning pharmaceutical and biological products. In this exploration the company had seen and grasped the opportunity to make another contribution to this end. The fact that it had voluntarily relinquished any control over the results, which

(*Continued one leaf over*)

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(Continued one leaf over)

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Dyschezia—A, dilated ampulla of rectum; B, hypertrophied rectal valve; C, sigmoid.

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(Continued one leaf over)



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(*Helpful Hints continued one leaf over*)



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(Continued one leaf over)

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[Continued over from preceding page]

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It is the author's belief that ours is an age of increasing insanity and mental defectiveness, the basic principles of which hinge closely upon "pathologic personality." Something undoubtedly must be done, and Dr. Boehme indicates a large opportunity for the physician to prevent if possible and to cure where possible these unhealthy mental states.

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Few conditions are as dangerous as ectopic gestation. Few conditions require as prompt and as efficacious attention as does this fatal disease. The excellent recapitulation herein presented, together with the cases illustrating the points dwelt upon in this paper, should prove of interest and value to both physician and surgeon.

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Obscure Etiology of Trifacial Neuralgia.
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Trifacial neuralgia results from a variety of factors of imperfectly understood origin. Because of this obscure etiology, the treatment is equally unsatisfactory. To remedy this, the paper of Dr. Lurie attempts to unravel the complicated elements involved and to explain matters on logical and sensible bases. Its practical value, then, is self-evident.

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144 CONGESTIVE DYSMENORRHŒA.

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The American Physician

Vol. 27 October, 1922 No. 10

What Does Group Practice Mean to the General Physician?

THE HUMAN FACTOR IN GROUP PRACTICE AND THE PAY CLINIC WORK

An Exceedingly Involved and Complex Problem

The world does not stand still. Modern medical practice must be adapted to the needs of the modern world to give people modern medical service.

Group practice is commencing to attract considerable attention as a practical answer to this problem.

Let us keep one fact before us always in considering the future development of medical practice. It will inevitably be determined on what will most efficiently make available to the public the service of modern medical science. Any medical journal or other instrumentality of medical leadership that fails to emphasize this point regardless of any other considerations is doing its followers a signal dis-service.

But such efficiency of service must also rest on sound economic and psychologic bases. They are modern sciences just as much as is medicine.

If modern medical service is to be so expensive that it is dispensed to all but the wealthy as a charity, you are building up the body while breaking down the character and the spirit. This is vitally important. If medical leadership continues to ignore this fact, it ultimately will cost dearly everybody concerned, including the American people.

This is an exceedingly involved and complex problem. Only practical evolution, plus a well-intentioned will to intelligently understand by all concerned, will provide a constructive solution.

THE AUGUST *Woman's Home Companion* carried an article by Thos. H. Halsted, M.D., a professor in Syracuse University, entitled "Teamwork for Health: Why Group Practice in Modern Medicine is Growing." Showing how foolishly people "doctor" themselves by going from specialist to specialist without the directing hand of the general practitioner, the paper dwells on the genesis of modern medicine, which as a science has gone ahead of the available machinery for using it, the necessity for specialists, and also the need for general physicians. Therefore, he believes, the general physician and the specialists should be brought together for the advantage of all, more especially the patients of all. Twenty to forty per cent. of all cases, he contends, are obscure or chronic ones, needing the attention of two or more physicians, the remaining sixty to eighty per cent. being uncomplicated cases that any good general physician can and should handle.

Speaking of the dissatisfaction in the minds of the laity with medical practice as it exists today, despite the fact that doctors were never so efficient, Dr. Halsted believes that group practice will meet the emergency, and hence his series of articles beginning as noted above will discuss the different methods employed in the group clinics thus far organized.

A Town of Only 3500 People

The *American Magazine* for August carried a much less discriminating article by Frank Hill on "Seven Doctors of Union City, Indiana," and their group clinic. Mr. Hill makes a very attractive showing for the plan. Now, Union City is a town of only 3500 people; it is on the Ohio line and has good railroad connection. It would seem that seven doctors would be enough to serve the total medical needs of the town and the surrounding country, but there were sixteen there before the war, which disturbed conditions somewhat, and the place is over-

supplied at present. Four of the six medical graduates connected with the clinic are old residents. There is one dentist. The sixth man is younger and the seventh came from Ohio. All are fellows of the American Medical Association. There are fourteen physicians in Union City, but the six who have been doing the bulk of the practice are united in the clinic. Of the eight others one is a woman, one a Homeopathist and one an Eclectic. With the advantages afforded by the clinic the chances are these seven men will soon be doing almost all of the practice, for the others are getting old, some do not belong to medical societies, and others are probably perfectly willing to drop out of it.

Yet it is more than probable that some of these doctors on the outside feel rather bitter over the clinic and are encountering competition that they cannot successfully meet: That is an economic situation that is developing wherever group clinics are organized in small communities. It is a characteristic of life.

The Commercialized Clinic in the Small City

The Union City clinic is well housed and has a capable personnel of ethical practitioners. Such clinics, in the long run, will doubtless be advantageous to all concerned, though some temporary hardship may result. Unfortunately, there are others, and they are commercial ventures pure and simple. There are two kinds of commercialized clinics. Two illustrations will suffice.

In a small city with a creditable hospital the "Outs," as the men not on the hospital staff were called, decided to start an opposition work in the form of a group clinic; but they viewed the proposition commercially and at least half of them were of poor attainment and without especial standing in the profession. So they bought cheap and flashy equipment, advertised in the newspapers, and were very bitter in their criticism of the "Hospital Crowd." In less than a year the sheriff got the building and equipment and the two leading lights in the clinic are now in irregular practice and doing poorly.

In a larger city there are five Jewish physicians who are long-time friends, all very capable practitioners and of excellent standing with their colleagues. These men have all done well financially. Not long since they got the "group clinic bug," as they described it. One of them had made a lot of money in business ventures aside from medicine, and he undertook to organize the group clinic. Trouble began at once, part of it being due to racial prejudice, which was not justified except as regards this one man. The reader can imagine the situation. The whole project blew up and those physicians have learned a rather sorrowful lesson and are trying to rehabilitate themselves in the esteem of their colleagues. Doubtless they will succeed, for they are all good men and good physicians.

Whether a commercialized group clinic is organized by capable physicians or by incapable ones, the public views it unfavorably and the commercialized project is doomed. This is a good thing to remember, for it is really encouraging.

The Cornell Experiment

Dr. Halsted lives in Syracuse, which is not very far from where Cornell University is conducting a very successful pay clinic, and doubtless his opinion is largely based on the Cornell experiment. In June we toured the Finger Lakes district of New York State and took occasion to feel out the situation regarding this much-discussed pay clinic. Certainly there was little excitement over it in New York, the public viewing it very favorably, feeling that it is only just to pay something for medical service; and, as Cornell is not profiteering in the work or being unfair to outside physicians who are capably practicing modern medicine, there is very little sympathy with the group of easy-going and out-of-date practitioners who, despite the fact that they are estimable citizens and gentlemen, are not informed in a modern sense and are loudly decrying the whole trend of modern medicine. Every community has such men, and where group clinics come in they are almost put out of practice. It must be conceded that these men are simply being run over and ignored, and that may or may not be a good thing, depending on one's point of view. But it is certainly hard on a lot of fine old gentlemen. We say "old gentlemen." That is a relative term, for we met, in his home in Montour Falls, Dr. Stephen Smith, who is one hundred years old; and he is not "old" at all in a medical sense, for he is quite in accord with modern medical trends. There are a lot of "old gentlemen" in medicine who should meet Dr. Smith and learn from him how to keep young in thought. If they did, they would not be so voluble in vituperation whenever a new thing comes in. [Since the above was written, we learned that Dr. Smith has died.]

Also we met a nationally known physician who is about seventy years old. It would not be fair to name him, but he said: "Every forward-looking physician is in favor of some proper form of group practice controlled by the profession itself, for it is the *best guarantee against medical socialism or political control* of the profession. Only a few irreconcilables and the submerged third of the profession are opposed to the principle of group practice, however we may disagree in details."

That "Submerged Third"

Now that "submerged third" proposition may bother some, for it seems to connect up with age. But the more we think over it, the less do we feel that the age incidence is wholly responsible for this medico-social pathology. Anyone officially connected with state-wide public health administration, as we are, comes to recognize the fact, for it is a fact, that

about one-third of the profession never seem to get anywhere in particular. Doctor, get out your medical directory and go ever the roll of physicians in your county and check the list over on the basis of efficiency and accomplishment, and you will find just about a third of them never "arrived" for one reason or another.

Now despite the sympathy you may feel for these gentlemen, they are the men who oppose innovation, never get on hospital staffs, secure worth-while appointments, or are counted in when group clinics are organized; and they gradually become supersensitive and hypercritical, are out of step. Doctor, you know a lot of them; so do I. What can we do about it?

Something Is Being Done

Years ago retail merchandising was reorganized in this country, department stores and other modern innovations forcing merchandising individualism into the background. For some time there was a submerged third among the merchants; but some of these men bucked up and made a success of new methods; others worked on salaries for large firms and made more money than in self-conducted business; some retired, and the unreconstructed either went into bankruptcy, sold out, or are holding on at a poor dying rate on the outskirts of business. Something of the same thing will probably happen in medicine.

The real reason why the term "general practitioner" has somewhat fallen on bad days is the simple fact that this one-third of the profession have come to be known by the public as general practitioners and are graded below the specialists, just as the old "general storekeeper of the country crossroads" is listed at the foot of merchandising. Times have changed; that is all. *We must change with them or go down and out.*

The New Specialty

"Diagnosis and Internal Medicine" is the way it reads in the staff roster of the group clinics, and the diagnostician and internist ranks just as high as does the general surgeon. These two men are the chiefs, the others being specialized technicians to handle that "twenty to forty per cent. of cases" Dr. Halsted classes as requiring more than *one-man attention.* The successful diagnostician and internist, these days, must measure up to the full stature of a man with the general public, just as the surgeon must.

We confess we rather like the term "general practitioner," but we cannot help the trend of the times. We believe general physician is a better term as matters stand now and that term is being used for the present in THE AMERICAN PHYSICIAN. A better term may evolve. This should not be regarded as a minor matter. There is much, exceeding much, in a name. There are general surgeons, but no one of them wants to be called a general practitioner surgeon; and there are general internists, but the man who really becomes skilled in modern diagnosis and internal treatment does not want to be called a general practitioner internist. We incline to the view that these terms will narrow down to surgeon and internist; and there will be orthopedic surgeons, abdominal surgeons, etc.; and there will be internists specializing in different divisions of internal medicine.

The Man Who Does Not Fit In

The man who looks at tongues, feels pulses, uses a thermometer, makes no discriminating diagnosis on a basis of exactitude, and then looks over his shelves for the combination tablet that seems more nearly to fit the case, is the man who is destroying the prestige of the term "general practitioner," and with him the average patient is becoming more and more dissatisfied. The public is right, for modern medicine has progressed beyond that sort of slipshod medical practice.

This man gets along, in a way, until the more progressive men in his community organize a group clinic; then he is out of it, for he does not fit in, and he joins the "submerged third," which is quite inevitable.

Time Will Solve the Problem

There are many things being written, and some done, in the group clinic proposition with which we cannot be in agreement. Some of its advocates ride rough shod over all the old ways of doing things, and others are commercialized, or pedantic, or narrowly specialized, or utterly selfish, or bombastic, or are impractical socialists. The whole movement needs guidance by the *medical societies.* If the movement *gets out of hand* the *profession at large* will be *injured* without in the *least benefiting* the public.

It is to be noted that there are men in practice in hosts of communities where there are no group clinics, but who are moving heaven and earth to *profit* by the idea. So they make grist of every case that comes to their mill, no difference how trifling if the patient has a little money, and they have laboratory and X-ray tests made, hold consultations, and so *squeeze every dollar* out of the case they can. These men are not all wholly grasping, for they are taught in medical school to do these things, and they do them without *proper discrimination;* but *some* are wholly grasping, and nearly every physician practicing that way is apt to become so. It is not to be wondered at that the general physicians gauge the group clinic idea by what they see of it at home, and so become prejudiced against an idea that, *properly guided* by the *profession itself,* may turn out advantageously to *all concerned.*

That Sixty to Eighty Per Cent

Don't forget that from *sixty to eighty per cent.* of cases do *not* need *group* attention. If we *force one hundred per cent.* of cases into group clinics we will be unjust, *unscientific,* irrational and probably subconsciously *commercial.* And we must never forget the *human* side of the problem. The medical profession *cannot be made over in a day.* The public is becoming interested in group practice, and we must study the proposition *without bias* and reach *just conclusions.*—T. S. B.

Help Us Get the Facts

on

GROUP PRACTICE

ON ANOTHER PAGE in this issue appears an article on group practice. We hope you will read it. However physicians feel on the subject, group practice or something of similar nature *is coming;* and it is to the interest of the profession that it be *wisely guided,* so as to be a *help* and *not* a hindrance to the *general physician* and to the public.

We are studying this problem. To do so *effectively* we will appreciate being placed in possession of the *exact facts* regarding group clinics now operating—how they were organized, financed and launched and how they function from the standpoint of the physicians engaged in the work, from that of the patients treated, and from that of the resident physicians who are not members of these groups.

If you are a member of a group clinic or are in position to get the *plain, unvarnished facts* regarding a group clinic near to you, will you write us these facts, quite in confidence if you so desire; and we will be under obligations to you. We hope many physicians respond to this appeal, so we can publish *helpful general findings.*

We are not desirous of *mere opinion,* for or against group clinics; what we want is *actual fact* with reference to existing groups, stated as evidence is given, not prejudice for or against any group, or mere personalities regarding the physicians component of such groups.

Only by ascertaining *actual facts* can the profession reach *just* conclusions regarding this *important innovation in medical practice.*

The Kahn Precipitation Test in the Diagnosis of Syphilis

Udo J. Wile (*J. A. M. A.,* Sept. 9, 1922) conclusions are:

1. The clinical application of the Kahn precipitation test compares favorably in sensitiveness with the standard Wassermann reaction.

2. It has obvious great advantages over the Wassermann reaction in: (1) simplicity of procedure, (2) rapidity of reading, and (3) reduction of the sources of error through elimination of a hemolytic system.

3. Its obvious advantages over other precipitation reactions lie in the visibility of the precipitate to the naked eye, and the frequent spontaneous reactions with strongly positive serums.

4. Further confirmatory tests, demonstrating parallelism with the Wassermann reaction, may well lead to the eventual abandonment of the latter in favor of the simpler precipitation procedure.

5. As a last advantage, a test embodying only one reagent plus a serum, offers a greater possibility of standardization.

Coming

Infant Mortality—Its Causes and Prevention, by Henry Bixby Hemenway, A.M., M.D.

To practice medicine is a privilege; to possess the qualification of Dr. Hemenway is an honor; to observe, deduct and record half a century's experience is a pleasure few are privileged to enjoy. Therefore, to fail to read, imbibe, and utilize the substance of this paper—this argosy of service, suggestion, and help, on the many phases of infant mortality—is to overlook something unusually worth while.

Constipation and Its Surgical Relations, by James C. Minor, M.D., F.A.C.S.

This subject, of such tremendous importance, should command the attention of the doctor, who is vitally concerned in the abating of disease and preservation of life—both so relentlessly interfered with by this omnipresent and omnipestilent overloading of the lower bowel.

The Study of Psychoses as a Guide to Proper Child Rearing, by W. W. Young, M.D.

Dr. Young says that we teach the generations to be doctors, lawyers, merchants, etc., but we neglect instruction in that most vital of all life's duties—parenthood. With very few exceptions the prospective parent faces his future responsibility with as few resources as the babe itself. If we are to rid civilization of cancer of abnormal mentality, we must have mothers and fathers who know how to be parents.

Gonococcemia and Metastatic Gonorrhea, by Hyman I. Goldstein, M.D.

Gonorrheal arthritis is too frequent, too intense, too obstinate a disease to require introduction or emphasis. Such being the case, we know Dr. Goldstein's able presentation of this subject will be fully appreciated by our readers.

Cancer Therapy; The Proper Co-ordination Between Surgery, Radium and X-Rays, by Isaac Levin, M.D.

In this, the concluding paper of the article begun in our October issue, Dr. Levin sums up his unbiased comparisons of the three methods of cancer therapy, and stresses the importance of a true evaluation of these methods and a way for their proper co-ordination.

Ludwig's Angina, by Mayer Shoyer, M.D.

When crossing a railroad you stop, look and listen. When crossing Ludwig's Angina you do not, you rush your patient to the surgeon, or the patient will go to the undertaker as is emphasized in this short but illustrative paper of Dr. Shoyer.

Muscular Tone and Reflex Pain in Diagnosis, Twenty-ninth Clinic, by A. Mackenzie Forbes, M.D.

The duties of a diagnostician are similar to those of a judge. "In a court of law the evidence is of the greatest importance. The omission or addition of one point may change the court's decision. In a similar way the science of diagnosis, the collecting, weighing and properly adjudicating the significance of the symptoms is of the greatest importance."

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 756

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

CANCER THERAPY*

The Proper Co-ordination Between Surgery, Radium and the X-Rays

By ISAAC LEVIN, M.D., New York.

Clinical Professor of Cancer Research New York University and Bellevue Hospital Medical College; Chief of the Cancer Division of Montefiore Hospital; Chief of the Radiotherapy Division of St. Bartholomew's Hospital; Consulting Radiotherapeutist Lebanon Hospital

(From the Cancer Division of the Montefiore Hospital for Chronic Diseases.)

Combined Method of Treatment

A notable contribution to the diagnosis and treatment of cancer by means of a group-clinic management of the cases. Herein is shown how thousands of cancer cases can be relieved, and most early cases saved, by a combined method of treatment along scientific and rational lines.—THE EDITORS.

Published in Two Sections

This exceedingly comprehensive paper has to be published in two sections. The second and final section will appear in the November issue.

THE AIM of any therapeutic measure in medicine is to completely and permanently eradicate the disease. The most efficient method for obtaining such a result is to employ a specific remedy. It is difficult, however, to conceive the existence of a truly specific remedy against cancer. The best evidence gathered from all experimental and clinical research to date tends to the conclusion that cancer is neither an infectious nor a systemic constitutional disease, but manifests itself as a local disturbance in a group of organ cells. It begins its development as a local condition, a transformation of a small group of normal cells of a certain organ into cancer cells. Some of these transformed cells become disassociated from the primary tumor and are transferred to distal regions of the organism where they form secondary metastatic tumors and again act to produce local disturbances.

Even for a distinctly infectious disease like tuberculosis the etiology of which is perfectly clear, no specific remedy is as yet discovere How much more difficult is it to develop a truly specific method of treatment for cancer! Such a therapeutic measure would have to affect deeply the cancer cells and at the same time remain innocuous to the adjacent normal cells of the same organ as well as to all the other normal cells of the organism.

It seems to be characteristic of cancer therapy that each individual worker employing a single therapeutic agent becomes enthusiastic over his immediate results and consequently over his particular remedy. The surgeon, the radium or the X-ray worker recognize the worth of their own work only. Just at the present moment a certain number of German clinicians[1] seem to maintain that the results obtained with X-ray therapy by the aid of the latest machines are superior to those resulting from any other method of treat-

* Read in part by invitation before the Meeting of the Bronx County Medical Society, March 15, 1922.

[1] L. Seitz & H. Wintz. Unsere Methode der Roentgen-Tiefentherapie und ihre Erfolge. Berlin, 1920.

ment of cancer. This presents a rather unfortunate situation since such an attitude must be followed by disillusionment and resulting pessimism towards important and useful single agents in cancer therapy.

Evaluating Methods

To date the total results obtained in the treatment of cancer with all the methods at our command are still limited. It is therefore of the utmost importance not to impede the correct and scientific progress of the subject by either an over-enthusiasm over one method or an unwarranted pessimism over the other. Surgery, radium and X-ray therapy represent to-day the sum total of the methods we possess in combating the disease. The most important problem to-day is to obtain a true evaluation of the three methods of cancer therapy and find a way for their proper coordination.

In the years of constant interest and active participation in the development of the subject, the writer had the opportunity to follow the results of the old methods of surgery, of modern radical surgery, as well as of radium and X-ray therapy, and the newest high-voltage technique. As a result of these years of study the writer feels justified in making the following statement: An individual cancer patient has a far greater chance for recovery at present than he had thirty-five years ago. On the other hand, undue enthusiasm over immediate results does only harm to the progress of the work, since immediate results must usually be greatly discounted a few years later in cancer therapy.

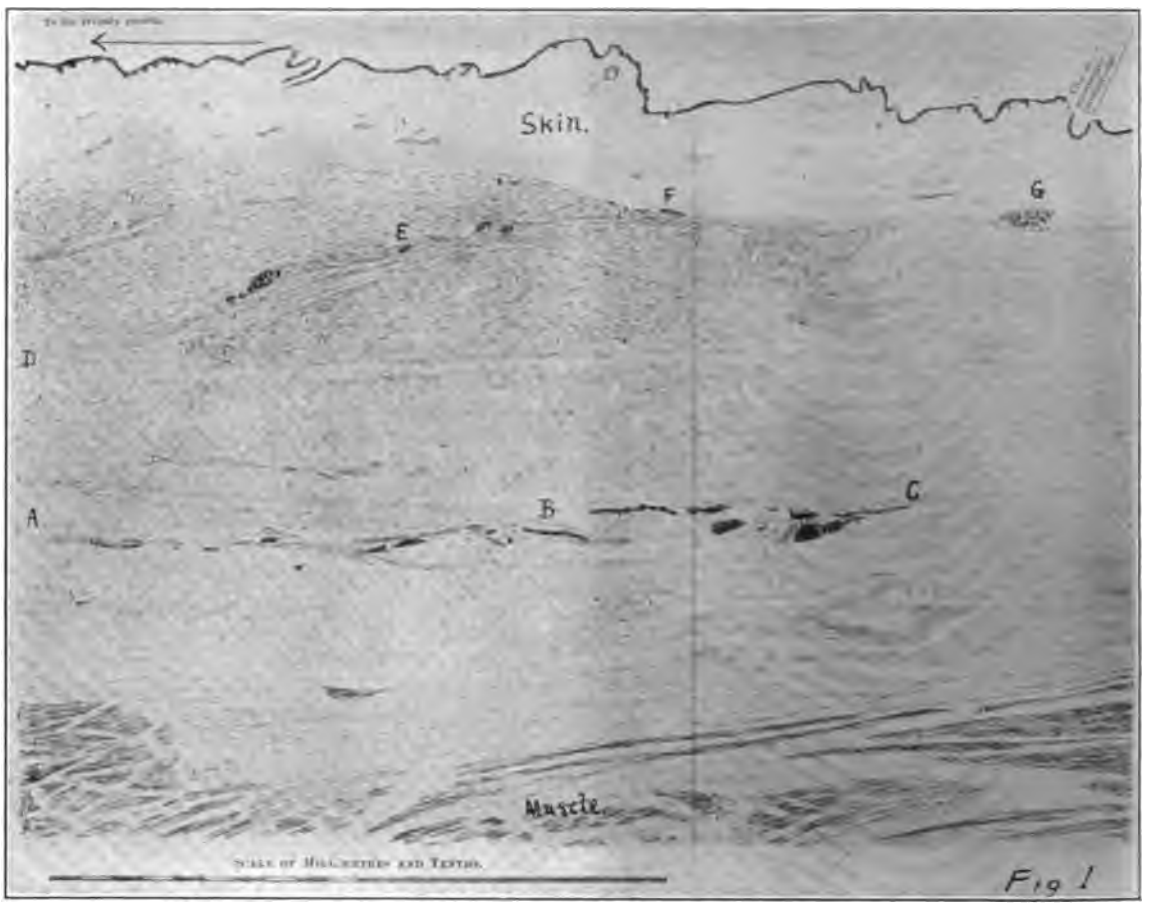


Fig. 1. Permeation of lymph vessels by cancer cells (from W. S. Handley Cancer of the Breast).

Surgery in Cancer

In the course of the last quarter of a century a great deal of progress has been achieved in the surgical treatment of cancer. The so-called radical methods of operative procedure were developed as a result of anatomical studies of the distribution of the lymph channels through which the disease spreads.

An excellent example of such studies is the anatomical and pathological investigations of W. S. Handley[2] on cancer of the breast. He has shown

that groups of cancer cells from the primary tumors in the breast permeate into the lymphatic vessels of the deep fascias of the chest wall. Subcutaneous nodules of recurrences arise only subsequently from the permeated fascial lymphatics along its tributaries. *Fig. 1* shows a number of lymph vessels permeated by cancer cells at points indicated by letters *A, B, C, D, E, F.* At letter *G* there is seen a subcutaneous cancer nodule. This nodule is directly connected with the lymphatics of the deep fascia. As a result of his investigations Handley proposed certain improvements in the radical amputations of the breast for carcinoma. Handley considers the following to be the object in radical surgical removal of cancer." "The removal intact of the permeated area of the lymph vascular system which surrounds the primary growth, and of the lymphatic glands which may have been embolically invaded along the trunk lymphatics of the area concerned." Subsequent investigations have shown that the same rules hold true for the surgical procedures in cancer in every locality.

Modern surgery strives to remove all the normal tissue adjacent to the malignant tumor and into which the latter spreads most frequently and also to remove all regional lymph glands. By the aid of these methods very remarkable results are obtained in the so-called operable cases. However, though between 25% and 50% of this class of cases may remain well for a number of years after the operation, they represent only a small fraction of the whole number of cancer patients seeking relief.

Vital vs. Surgical Statistics

The writer has reported in a previous publication[3] a comparative analysis between vital statistics and surgical statistics of cancer. This analysis has shown that in the hands of different surgeons the highest percentage of all cancer cases of a community which can be cured by surgical treatment, is 15.25% and the lowest 4.15%, or in all, probably less than 10%. Even on the supposition of the unattainable ideal, that instead of only a small percentage of the cancer patients reaching the surgeon in the operable stage of the disease, all the patients should come to the surgeon early, less than 20% of all the cancer patients may be expected to be cured by the surgical methods employed to-day. Withal the technique of cancer surgery has probably reached its limits.

J. M. T. Finney, of Batlimore, discussing the paper "The Cure of Cancer and Cancer Cures," presented by A. D. Bevan, of Chicago, before the meeting of the American Surgical Association in 1910, stated as follows: ". . . I do believe that we have almost reached our limit so far as this is concerned, that is, with regard to technique. We cannot make much wider dissections than we are doing . . ." This statement represents the true situation in connection with the surgical treatment of malignant tumors. The latter are usually situated in close proximity to the vital organs, the injury of which would endanger the life of the patient, consequently there is set a limit to the length to which a surgeon may go in removing normal tissues adjacent to the tumors. As a result of these limitations there may remain small islands of cancer cells in or near the operating field, even after a radical operation. For this same reason the knife may inadvertently cut into such an island of tumor tissues and throw freed cancer cells into the opened lymph and blood channels; the malignant tumor will then recur in the same region or in a distant organ.

A further reason for the failure of a radical operation consists in the fact that even in early operable stage of the disease there may be present minute tumor nodules in the distant organs which cannot be detected by any diagnostic means at our command, but which after the operation develop into large metastatic tumors.

It is thus self-evident that the need for the additional methods of treatment of cancer is great. The actual results frequently obtained by surgery alone without the aid of the other methods is very well illustrated in the following report of R. Peterson,[4] of Ann Arbor. He presented a paper on "The Radical Abdominal Operation for Cancer of the Cervix" before the meeting of the New York State Medical Society in 1920, in which he reports that 40.9% of all the operated patients were permanently cured. However, he operated only on 60 out of 380 patients with carcinoma of the cervix which came to him for treatment. Thus in reality 18 patients, or 4.7%, of the whole number were cured, while 14 patients died as the immediate result of the operation. One wonders whether the total result would not have been as good if all the 380 patients remained without any treatment. Nevertheless, Peterson makes the statement in his concluding remarks that if massive doses of radium are required then the patients must be treated with surgery alone because many places in this country do not possess any radium. It would seem to the writer that in a well-organized human society means ought to be found to refer these 380 patients to institutions which possess all the means for treatin the disease.

Radiotherapy in Cancer

The term radiotherapy is usually applied to treatment both by the aid of radium and the X-rays. It is as yet impossible to ascertain whether there is a qualitative difference between the biological and therapeutic action of the two types of radiation. It seems

[3] W. Sampson Handley. Cancer of the Breast. London, 1906.

[3] I. Levin. Medical Record, April 5, 1919.

[4] R. Peterson. N. Y. State Journal of Medicine, 1920, xx, 818.

that the more penetreating the radiations are, the more selective is their biological action, and the Gamma rays of radium are more penetrating than the hardest X-rays at our command. None the less the Gamma rays of radium represent from the standpoint of physics only a more perfect type of X-rays, and the action of the two types of radiations must be to a degree analogous.

The morphologic changes which occur in carcinoma or sarcoma tissue under the influence of radium and X-rays are observed in the tumor cells themselves, and are manifested by the vacuolation of the protoplasm, pyknosis of nuclei, karyoclysis and, ultimately, complete necrosis of the cell. The cellular changes are accompanied by a round-cell infiltration, which is subsequently changed into dense sclerotic connective tissue, poor in blood vessels. This new connective tissue formation ultimately dominates the picture to such an extent that some observers maintain it is the only direct effect of radiation, while the destruction of the tumor cells is secondary and due to lack of nutrition.

The Biological Action on the Cancer Cell

The clinical, pathological and biological studies of the writer in association with B. Joseph[5] and M. Levine,[6] indicates that the first effect of the rays is exerted directly on the tumor cells. This effect consists in the inhibition of the proliferating power, in the sterilization, as it were, of the cancer cells. The degeneration and destruction of the cancer cells and the formation of the sclerotic connective tissue take place subsequently through the action of the rays; moreover this cell degeneration and cell death may not be due directly to the action of the rays, but takes place in the natural course of the life cycle of the cancer cell. This cycle consists of *youth*, or period of development; *maturity*, or period of function, and *senility*, or period of degeneration, which gradually leads to death. In parenchymatous organs, like the liver and kidneys, the first period is usually completed during embryonic life or at a very early age; the second period continues through the whole life of the organism, and the third period is attained at the old age of the organism or near its death.

The life of an individual cancer cell, on the other hand, is very short; it changes rapidly from an embryonic into an adult and then immediately into an aged, degenerated cell, and this process takes place continually, irrespective of any intrinsic aid. But in a malignant tumor the majority of cancer cells are quickly rejuvenated before they reach senility through the fact that each cancer cell is divided into two young daughter cells. The radiations arrest the division of the cancer cell, and as a result the latter matures and degenerates. A certain number of such mature cells may not degenerate and though potentially cancer cells, may become resistant to the rays.

The round-cell infiltration, which surrounds the groups of irradiated cancer cells and which is subsequently changed into dense sclerotic connective tissue, is of secondary occurrence, though for practical purposes it is of greater importance than the destruction of the cancer cells themselves. The important rôle of this connective tissue consists in the following: After the most perfect results of radiation, as stated above, there may remain a certain number of viable though stunted cancer cells; the dense connective tissue wall surrounds these cells and keeps them in check. The formation of the connective tissue around the rayed cancer cells is not due to the direct influence of the radiations, and raying of other conditions like thyroid gland, cheloid, etc., is not followed either by cell infiltrations or by connective tissue formation. The experimental investigations of the writer[7] also indicate that this connective tissue formation apparently represents an attempt by the organism to protect itself against the further growth of the cancer by walling it off from the normal tissues by a connective tissue barrier.

It is evident from the study of the mechanism of the biological and therapeutic action of the radiations that it is superior theoretically to surgery because it may either destroy *in situ* or inhibit malignant tumor tissue without injuring or removing any of the adjacent normal tissue. Thus theoretically radiotherapy is the nearest approach to a specific method of treating cancer we can conceive of to-day. However, as will be shown later in practice, radiotherapy notwithstanding its biological advantages has its limitations as well as has surgery.

Radium Therapy

During the last decade there has accumulated a large number of cancer cases which were treated by radium alone without the aid of surgery or any other method of treatment. As an instance it may be well to cite briefly the report on the radium treatment of uterine cancer, which C. F. Burnam,[8] of Baltimore, presented at the same meeting with R. Peterson before the New York State Medical Society in 1920. Together with H. A. Kelly they treated, up to 1919. seven hundred cases of uterine, cervical and vaginal cancers, and had excluded from treatment only sufferers with advanced general carcinomatosis. Of the cervical cancers irradiation alone cured 50% of the operable cases, 31% of the border line cases, 9% of the inoperable cases and 11% of the recurrent inop-

[5] I. Levin and B. Joseph. The Journal of the American Medical Association, 1917, LXIX, 1068.

[6] Isaac Levin and Michael Levine. Annals of Surgery, April, 1918, p. 443.

[7] I. Levin. Journal of Experimental Medicine, 1911, XIV, 139.

[8] C. F. Burnam. N. Y. State Journal of Medicine, 1920, XX 316.

erable cases. In a previous publication[3] the writer has shown from the results of his own and other investigator's work, that conservatively 6.7% of the inoperable cases may be clinically cured by radium. It will be shown later that good results may be obtained by X-ray therapy alone. However, there are reasons within the physical qualities of these two types of radiations why radium is a more efficient agent that the X-rays.

It has been stated previously in this article that the harder the rays the more selective and consequently the more efficient therapeutically is their action. The Gamma rays of radium are by far the most penetrative rays known to us to-day. The following phenomenon in the physical behavior of the radiations presents another and a most important proof of the greater therapeutic efficiency of Gamma ray of radium over that of X-rays. A beam of rays, when it leaves the point of its formation, travels in the form of a pyramid. The further away from the apex this beam travels the more diffused it becomes. The closer therefore a square unit of the surface of a body is to the apex of the pyramid the greater the intensity of the rays.

It has been shown that the diminution of this intensity is in inverse ratio to the square of the distance of the surface of the body from the source of the rays. The Gamma rays of radium are formed from every molecule of a radium salt or from every atom of radium emanation; consequently when a small cylindrical tube of radium is placed over the surface of, or better still within, a tumor, the distance between the source of radiation and the tissue to be affected can be made almost infinitesimal. The X-rays, on the other hand, originate at the focal point of the target of an X-ray tube which is in itself 10-15 c.m. from the bulb surface. In reality in X-ray therapy the distance due to the physical and mechanical conditions of the apparatus between the focal point and the surface to be affected is between 30 and 50 c.m. To this must be added 10 c.m. or more, being the distance from the skin to the tumor. As a result a far greater quantity of the X-rays must enter the organism of the patient in order to obtain at the tumor the quantity needed to influence it. The radiations are, however, not indifferent to the rest of the organism, but produce a reaction on normal tissues and particularly on the blood and blood-forming organs, which may become so severe as to counteract the beneficial effect of the rays on the tumor, since the irradiation, as was stated above, must be accompanied by a great deal of protective co-operation on the part of the blood and lymphoid tissue.

The Action on Blood and Lymphatic Tissues

The writer conducted, in association with M. M. Sturges,[9] an experimental investigation, which shows this difference in the action of the two types of radiations. The study consisted in an analysis of the blood of frogs and rabbits after treatment with X-rays or radium. The whole body of the animals were treated with the same quantity and quality of X-rays. The radium treatment consisted in the introduction by a method to be described later into the dorsal lymph sack of a frog of a minute capillary glass tube about 4 mm. long containing from 1.0 to 0.6 millicuries of radium emanation. In the rabbit a laparotomy was performed and from two to four radium emanation capillaries were inserted into the spleen.

The difference observed in this investigation in the reaction of the blood to the X-rays and radium on frogs and rabbits is quite significant.

A similar amount of X-raying produced a similar change in the blood of a rabbit as it did in the frog. On the other hand, an insertion of radium in the frog produced a similar change in the blood of the animal as the X-rays, an insertion into the spleen or the bone marrow of a rabbit of 2 to 4 capillaries, *i. e.*, of 2 to 4 times the amount of radium emanation used on a frog, produced no change in the blood of the rabbit whatever, though it produced a deep local effect on the spleen and bone marrow tissue.

Biologically the amount of X-rays used on the frog must equal the amount of radium emanation contained in the capillary since the biological results obtained were identical. A larger amount of radium emanation used on the rabbits must have produced some general biological effect on the blood of the animal since it produced such an effect on the blood of a frog. However, the effect on the blood of the rabbit was apparently so small when distributed over the comparatively large amount of blood and blood-forming tissue of the rabbit that it produced no tangible result on it and did not change its structure.

The comparison in the action of the X-rays on the two species of animals, on the other hand, shows that the same technique produced the same general effect on the blood of a rabbit as on the blood of a frog. The reason for it lies in the fact that the quantity of the X-rays entering the animals must be multiplied by the square of the surface of their bodies, consequently the rabbit obtained a greater quantity of radiation.

These experimental results tally well, as will be shown later, with the clinical findings. The advantage of radium over the X-rays, generally speaking, consists in the fact that the same local effect can be obtained by the former without the general reaction which is frequently so severe in modern X-ray therapy.

[9] I. Levin and M. M. Sturges. Proceedings of the Society for Experimental Biology and Medicine, 1921, XVIII, p. 295.

The Technique of Radium Therapy

The method of using radium for therapy which was generally employed heretofore consisted either in sealing an insoluble salt of radium element in a glass tube or in a small hollow needle built of irido-platinum or "non-corrosive steel" or else in incorporating the radium salt in a varnish and spreading it over the surface of a flat applicator.

This method lacks, however, both flexibility and compactness and is very unwieldly for utilization of large quantities of radium. While occasionally a whole gramm may be used on one patient, it is frequently necessary to use as little as 0.3 of one milligram for one area of a tumor.

The more recent method of employing the so-called "radium emanation" obviates many of these difficulties. It is very compact (an equivalent of 1 gm. of radium element may be condensed into 0.6 of a cubic millimeter) and flexible, since the available quantity may be divided in any desired manner. As

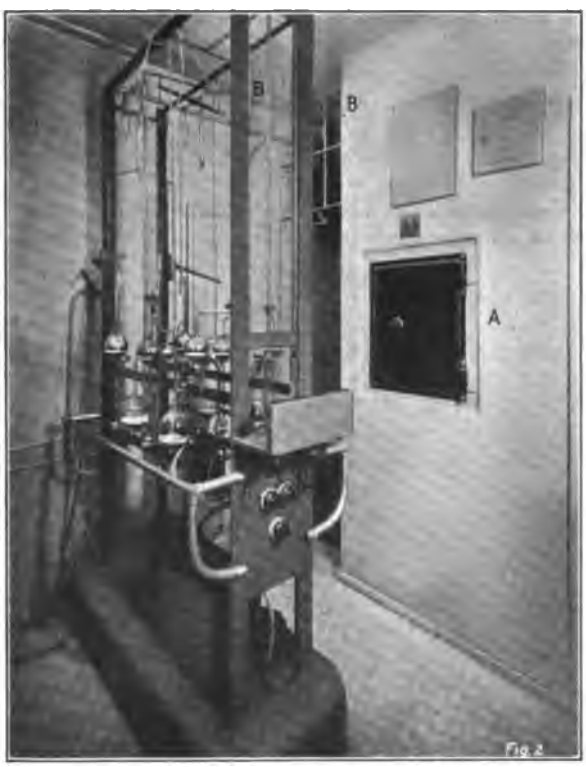


Fig. 2. Photograph of radium emanation apparatus in the writer's laboratories. A—Safe containing the radium solution flasks; B—The glass tube leading from the flask to the set of pumps.

will be seen later, the use of radium emanations is creating entirely new and very promising methods of radium therapy. Before discussing further the developments in therapy produced by the use of emanation, the writer will permit himself to digress into a brief discussion of the physical qualities of the salts and the emanation of radium.

The Physical Characteristics of Radium

Radium is an elementary body with an atomic weight of 226.4. Its so-called radioactivity is due to the fact that it constantly emits alpha, beta and gamma rays, of which the two latter are employed in therapy. These rays are emitted in the course of the disintegration of the atom of radium. The radium element emits only an alpha ray and is thus transformed into "radium emanation," or "niton," which is also an elementary body, but has the structure of a heavy gas, the atomic weight of which is 222.4, *i. e.*, 4. (the atomic weight of helium or the Alpha particle) less than the atomic weight of radium. Radium emanation also emits only alpha particles and is then disintegrated into a series of new elementary bodies so called Radium A, Radium B and Radium C, which are solid bodies. Only the latter two substances (Radium B and Radium C) emit beta and gamma rays and have a therapeutic value. Consequently, for purposes of therapy the results will be identical, whether radium salts or radium emanation is the source of radioactivity. They will both have to disintegrate into Radium C before they can be employed.

Since it takes the radium element about 1700 years to lose a half of its amount through disintegration, it is obvious what a small fraction of it changes into radium emanation during each unit of time. The first advantage of the latter substance over the radium salt is thus evident; it may be concentrated into smaller space. The radium emanation, though heavy, can be collected and manipulated like any other gas. To obtain it from the radium the latter has to be kept in solution in a flask which is directly connected with a system of mercury pumps.

Fig. 2 shows a photograph of the apparatus used in the writer's laboratory. The radium salt is dissolved in water acidulated with hydrochloric acid in glass flasks, which are placed in a lead-lined safe. The flasks are joined to one glass tube which leads out from the safe into the collecting apparatus. The latter, as stated above, consists of a system of mercury pumps connected with a highly efficient electric pump. The object of the apparatus is the following: a vacuum is created in the flasks containing the radium solution. As a result the radium emanation gas, together with hydrogen, oxygen and chlorine formed in the flasks under the influence of the radiations, as well as water vapor and other gases forming as impurities in the apparatus, collect in the glass tubes and flasks of the latter. Of all these gases the radium emanation occupies the smallest space. The apparatus, which was designed originally by Prof. Duane,[10] of Harvard

[10] Wm. Duane. Boston Medical and Surgical Journal, 1917, CLXXVII, 787.

University, contains, besides the vacuum pumps, a purifying apparatus to absorb the additional gases and thus obtain the pure concentrated radium emanation gas. Fig. 3 presents schematically the apparatus employed in the writer's laboratories. It consists of two independent units, so that when one unit becomes defective the other may be used while the former is being corrected.

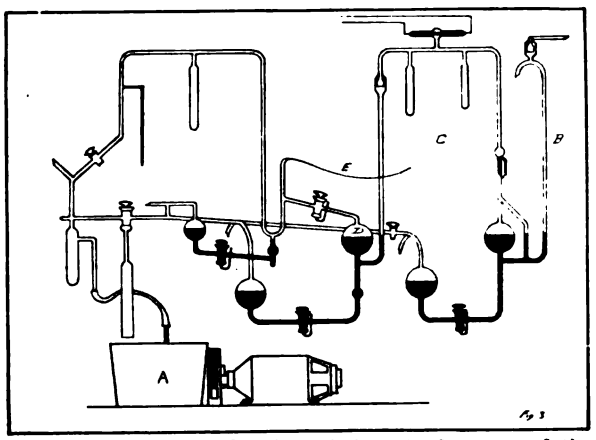


Fig. 3. Schematic drawing of the set of pumps of the emanation apparatus. A—Electric pump; B—Tube leading from safe; C—Purifying system; D—Last receptable flask; E—Capillary glass tube.

When the purification of the emanation is completed it is driven into the last receptacle flask (Fig. 3*d*) of the apparatus and from there into a long capillary glass tube (Fig. 3*e*). The capillary is then sealed off and divided into small tubes of from 12 to 3 mm. long and about 0.5 to 0.3 mm. in diameter. The longer capillary tubes are immediately placed in silver capsules ¼ mm. thick and 16 mm. long, coated with multicolored enamel for the purpose of identification. Three and one-half hours later, when a sufficient amount of radium emanation has changed into radium A, B and C, and the gamma ray activity within the capillaries reached its equilibrium, the contents of the tubes are measured by the aid of an electroscope or galvanometer type of measuring apparatus. The principle of the measurement is based on the fact that the gamma rays of radium ionize the air within the ionization chamber of the apparatus and the intensity of this ionization is commensurate with the quantity of the gamma rays of radium. This indirect method is the only one at our command to measure either the quantity of radium salts or radium emanation. The unit of measure for radium emanation is one millicurie, which means the amount of gamma rays equal to an amount emitted by one milligram of radium element.

Fig. 4 shows another division of the radium laboratories of the writer containing the electroscope and galvanometer. Unlike the tubes containing the salts, the amount of radium emanation within the capillary is constantly changing and therefore a complete record of each tube has to be kept.

Surface Application of Radium Emanation

To prepare the emanation tubes for use on patients, several tubes of a desired strength are placed parallel in wooden or brass boxes of the necessary dimensions. These boxes act as additional filters since the glass and the ½ mm. of silver of the tubes filter off only the alpha and softest beta rays and create the correct distance between the radium and the surface of the tumor to be treated. When the configuration of the diseased area is irregular a perfect mould can be prepared of dental compound and the tubes spread on it. Fig. 5 shows applicators for various parts of the body.

By all these methods a more or less large quantity of radium emanation is placed at one of the surfaces of the tumor, left for a number of hours and then removed. Even when an applicator is placed inside of an organ, like the rectum, uterus, esophagus, etc., in relation to the tumor itself, the radium is placed on the surface of it.



Fig. 4. The measuring division of the writer's radium laboratories. A—Electroscope; B—Reflecting screen; C—Protection for operator; D—Galvanometer; E—Experimental ionization chamber used in research work.

Intratumoral Application of Buried Tubes of Radium Emanation

This method presents a comparatively new departure in radium therapy, but the results up to the present are so gratifying that the writer is convinced that it is certain to play a most prominent part in the future development of the whole field of radiotherapeutics. For this method the radium emanation and not the

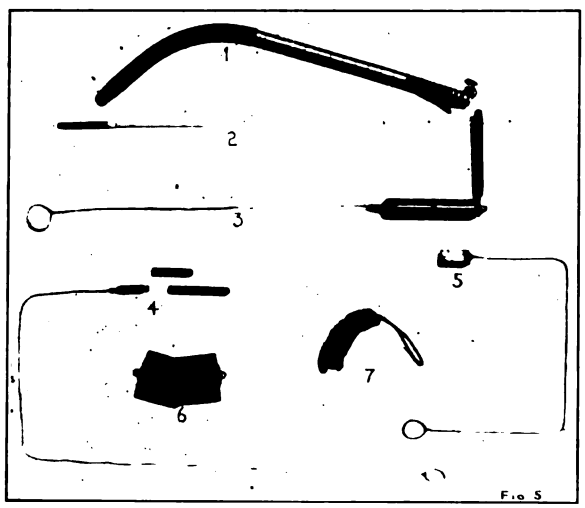


Fig. 5. Set of applicators for surface application of radium. 1 and 2 shows an intralaryngeal applicator devised by Dr. S. Yankauer. 3 is a rectal applicator devised by the writer, the perpendicular rod of hard rubber is used for protection of the operator while opening and closing the applicator. 4 shows an applicator which may be used for oesophagus or as an intracervical applicator. 5 shows a brass box in the form of a pyramid. 6 in the form of a match box. 7 shows a special mould of dental compound to conform to a case of carcinoma of the tongue.

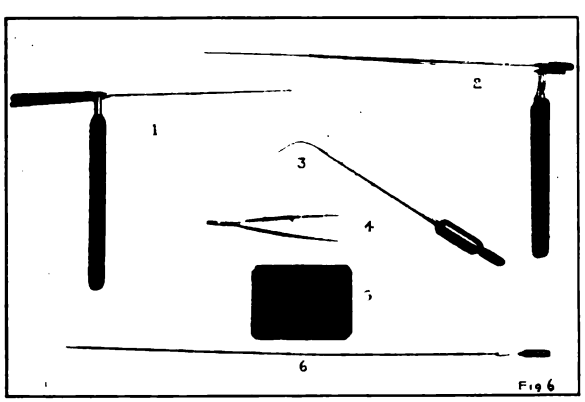


Fig. 6. Set of trocars for insertion of bare tubes of radium emanation. 1 and 2 show different length of straight trocars. The hard rubber handles are for protection of the hands of the operator. 3 a curved trocar. 6 a flexible trocar used with Dr. L. Buerger operating cystoscop. 4 a thumb forceps. 5 a number of bare capillary glass tubes filled with radium emanation.

salts of radium must be employed. The technique is as follows: Bare capillary tubes about 3-5 mm. long, containing between 0.3 and 1.5 millicuries of radium emanation are inserted by the aid of a trocar (Fig. 6) into the tumor tissue and left there. The capillaries may be sterilized either by boiling or immersion in a solution of iodine and then in alcohol. These tubes exert a comparatively weak but continu-

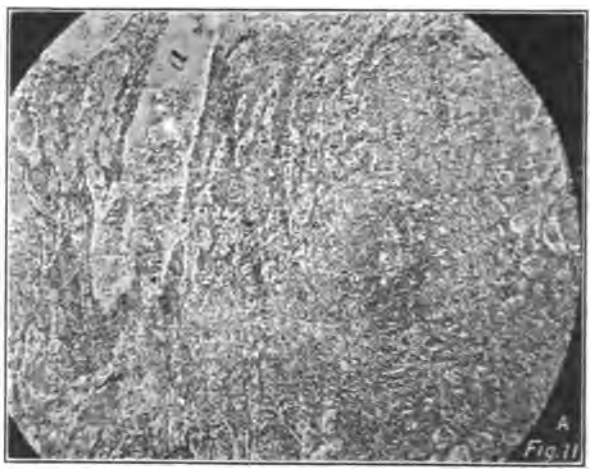




Fig. 11. A shows a microphotograph of a portion of a spleen of a rabbit into which a bare tube of radium emanation was inserted. At A is seen the necrotic area; B microphotograph of a crown gall into which a bare radium emanation tube was inserted; A shows a protecting cushion of cellulose surrounding the necrotic area.

ous action on the tissues which lasts for several weeks. The cumulative action of one millicurie is calculated to equal 132 millicurie hours, or in other words, equal to one milligram of radium salt applied to the same area for 132 hours. However, the action exerted on tissues by the buried tube of emanation is entirely different qualitatively from the surface application.

Depending upon the mass of the tumor, several

such tubes are inserted at accurately determined distance from each other and also at a correctly safe distance from the neighboring normal tissues. The tumor tissue immediately surrounding the capillary is influenced by the soft beta rays and becomes necrotic. (Fig. 11.) This area of necrotic tissue seems to act as a filter and the next zone of tumor tissue is influenced only by the hard beta and gamma rays. As an ultimate result the tumor is replaced by a connective tissue capsule which wholly encloses the glass capillary, which by that time becomes inert and causes no discomfort to the patient. The studies of the writer with Dr. M. Levine on crowngall—a plant tumor—have shown that the necrotic area is surrounded by a protecting cushion of cellulose.

Advantages of the Method

Tumor tissue is destroyed much more promptly and by a much smaller quantity of radium by this method than by surface applications. The necrotic area surrounding each capillary is very small, and if they do not contain much more than one millicurie of emanation and the tubes are not placed too close to each other, there does not take place any severe general sloughing. In the course of the last two and a half years the writer has used this method extensively in cases of intraperitoneal tumors (carcinoma of the gastrointestinal tract, the uterus and ovaries, hypernephromata and retroperitoneal tumors). A laparotomy is performed and when it is found that the tumor itself is inoperable, *i. e.*, cannot be radically removed, then instead of palliative procedures or mere exploration, emanation tubes are introduced into the tumor. The patients make an uneventful recovery, there is no rise of temperature, no peritoneal irritation or subsequent sloughing of the tissue. In a word, the insertion of radium emanation does not add in the least to the hazard of the operation. The tumors shrink considerably and the final effect of the irradiation is usually noted in about six weeks.

This method seems to present an ideal combination of surgical removal and an irradiation. Each such intratumoral insertion of radium emanation should be followed by surface applications of radium emanations or by X-ray treatment of the periphery of the tumor for purposes of prophylaxis.

The Efficiency of Radium

The perusal of the foregoing pages and a close analysis of the mechanism of the action of the various methods of radium application clearly indicate that radium is the most efficient single agent in cancer therapy. Intratumoral application of radium may destroy the primary malignant tumor as completely as does surgery. A surface application of a few grams of heavily filtered radium at a distance of, say, 30 c.m. from the skin of the patient, will on the other hand, deliver a beam of rays by far more homogeneous and penetrating than any machine constructed by human mind and hands ever will be able to do. The efficiency of radium is in reality limited less by its potentiality than by its cost. It is the writer's conception that radium should stand in the center of the problem of cancer therapy, and surgery and X-ray therapy be placed at both ends as complementing the action of radium. If the statement is still generally made that surgery is the main method of therapy and all radiotherapy is only assisting the latter, this is merely a concession to the former achievements of surgery. In the next chapter an attempt will be made to give a true evaluation of the place of the X-rays in cancer therapy.

Final Section in November

The second and concluding section of "Cancer Therapy" will be published in the November issue.

Children Pay Penalty for Anti-Vaccination Propaganda

As ever in the history of smallpox, the case-incidence of new outbreaks is greatest where the influence of anti-vaccination propaganda is most effective. The unvaccinated children are the chief sufferers. This fact is shown on a gigantic scale in the recent experience of the Philippine Islands.*

Students of the prevailing world-wide menace of smallpox have seen many statements from anti-vaccination propagandists that the sad experience of the Philippines in 1918 and 1919 was a repudiation of the principles of modern public health measures for smallpox suppression. These statements are mere allegations that 50,000 smallpox deaths occurred in the face of systematic, persistent vaccination. The real truth is that the practice of effective vaccination had been exceedingly lax since the general campaign of 1909 or thereabouts and that most of the 50,000 deaths occurred among the children and other elements of the population unprotected by the indifferent pursuit of vaccination in recent years in the Islands. The age statistics given by Drs. Heiser and Leach for Pangasinan and for Manila show a predominance of both cases and deaths among the unvaccinated. A careful review of these facts will make it possible for American health officers to refute the diligently circulated misstatements of the anti-vaccinationists.—Statistical Bulletin Metropolitan Life Insurance Company.

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*Heiser, Victor G., and Leach, Charles N., "Vaccination in the Philippines Still Effective," *Jour. Amer. Med. Asso.*, July 1, 1921, p. 40.

PATHOLOGICAL PERSONALITIES*

An Opportunity and a Duty of the General Physician

VITAL PROBLEM; WIDE EXTENT LITTLE REALIZED; INCIPIENCY RECOGNITION DIFFICULT YET INDISPENSABLE FOR SUCCESSFUL RESULTS; OVER-EMPHASIS OF LABORATORY TESTS; LACK OF RECOGNITION OF THE ELEMENT OF PERSONALITY.

By GUSTAV F. BOEHME, JR., M.D.,
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Something Must Be Done

It is the author's belief that ours is an age of increasing insanity and mental defectiveness, the basic principles of which hinge closely upon "pathologic personality."

Something undoubtedly must be done, and Dr. Boehme indicates a large opportunity for the physician to prevent if possible and to cure where possible these unhealthy mental states.—EDITORS.

WHEN I was studying rhetoric, some years ago, a rule of description that was given us was, that in order to produce a clear mental impression of a scene or an event it was necessary to assume a point of view and to paint the word picture with this position constant. When I approached the problem of personality I soon found that there was no such constant vantage point, no rock upon which to plant the mental feet firmly. And from the recesses of the mind a Shavian recollection intruded itself. I was reminded of the story Shaw tells about himself. It seems that upon one occasion he worried about his vision and to make sure that all was well he consulted an ophthalmologist, who pronounced his eye-sight "normal." Shaw, however, was disappointed. Turning to the doctor he said, "You don't mean to tell me that my eyes are like every one else." (For, said he, I did not want to be like every one else.) "No," replied the physician, "your eye-sight is rare, indeed; it is exactly perfect, emmetropic, and that seldomly occurs." And said Shaw, "I was happy, for now I was able to explain to myself why I saw so much more clearly than others, my eye-sight was not befogged by mal-adjusted spectacles."

Here, also, was my predicament. I did not know what was normal, I did not even have a norm by which to measure personality. I have, therefore, deemed it best in this brief review to leap from mountain top to mountain top, to shift the view continually, to try to arrive at some conclusions as to what after all "pathologic personality" signifies.

My attention was first drawn to this matter some years ago when examining school children and, later, prostitutes and public offenders for so-called mental defects. At first the matter seemed a simple one. The Goddard revision of the Binet scale seemed an easy way out, but soon we found that the actual measurements missed certain salient factors. Then came the use of the point scale of Yerkes. This offered a better solution for our problems, yet there was a feeling of something missing, so many evidently peculiar cases were falling outside the realms of these apparently positive tests. The Terman scale, the various form-board tests, the picture scales, performance tests, mechanical tests, all seemed to miss fire.

I remember comparing the reactions of various groups of subjects to the mechanical tests. It was interesting to see competent mechanics utilize the "look and try" method, and then to see groups of Army officers, of physicians and other workers, essay the same tests, all reacting differently. Again it might be noted that Yerkes himself stated that a great many competent individuals failed in the various mental tests simply from the fear of appearing ignorant. In other words, there were factors well outside of the definite, ponderable reactions of the psychologist that were at work to modify so-called exact judgments.

Can We Drop the Action Pattern?

Barrie, in his play, "Dear Brutus," makes the point that were we given a second chance we would repeat our former lives, simply because we would not be able to overcome our action patterns. And so, when dealing with the individual, the personality factor becomes of vital importance. But how approach it? Personality is a complex matter. Let me quote two accepted definitions. Says Coleridge, "Personality

* Read before a stated meeting, Los Angeles Neurologic and Psychiatric Society.

is individuality existing in itself, but with Nature as a ground"; or, again, I find in Webster, "Personality implies complex being or character having distinctive or persistent traits among which reason, self-consciousness and self-activity are usually considered essential." Both are but conglomerations of words that define but poorly the vague mental concept we have in our minds when we use the word. Burroughs, in his "Breath of Life," says: "We have the words and they shape our thoughts." That is the difficulty in all so-called psychological and philosophical discussion; we play around with phrases and have no clear pictures in our minds.

The individual is complex. He consists essentially of a phylogenetic entity and an ontogenetic entity, to which may be added the ethical self. The phylogenetic entity is to the individual the resultant of race development plus the individual passing into the next generation. As Shaw says, we are ever passing through a door which we never quite reach. So personality is in the first place the result of race movement, the result of heredity, and secondly the result of movement forward, as exemplified by our limitations, by current opinions and customs. To have killed an individual who stole my horse some time ago would have been a normal reaction; to do so today would be evidence of disease, a perversion of the moral sense and a violation of our present codes.

Again, we live our own lives; our ontogenetic self lives and reacts to our welfare. To be clean, to bathe daily, is today a strict necessity, yet it is only yesterday that the bath tub was used as a coal bin, that Saturday night was bath night, and it is only two centuries ago that the church forbade bathing as immoral, in certain communities. So we could run the gamut of personal reactions for the individual's welfare, and find that each one chooses for himself what he deems best, and that that choice is oft times regarded as pathological by others.

And, again, one views the ethical phase. It is easy for the law to state that insanity consists in the lack of knowledge of right and wrong, and one of our members stated not so long ago that a dog or a cat, yes, even a clam, knows the difference; but one can't get off quite so easily. Read Kant's "Critique of Pure Reason," compare it with Janet's "Theory of Morals" or Wundt's "Ethics" and one soon learns that even here learned minds differ. On one hand stand the proponents of "Duty," which is the measure of right, is right itself; on the other we find those who stand for the existence of natural knowledge of good, and between them those who speak of acquired and natural right.

Psychology and Insanity

And as personality contains all these elements—plus—shall I say action pattern—to pronounce an individual pathologic or insane is not as simple a problem as it would seem on the surface.

However, certain things have been clearly distinguished and an attempt will be made here to point out the salient factors. The approach by age periods probably offers the best solution of the difficulty.

Baby psychology or baby abnormality mentally has not been as yet clearly defined. Baldwin has probably done the best work in this field. Even here, however, we are able to distinguish personality differences. The crying babe, the laughing babe, the well-behaved infant, the "enfant terrible," all point to differences of make-up early in the plan of life. I believe that here a great many deviations in personality might be produced, especially if parents were cognizant of the fact that the baby early acquires habits, or lack of habits, and duties, or lack of duties. Regularity, proper hygienic surroundings, low-voiced conversations, equability in the home, are potent factors in the building of the coming child and man.

From the third year to puberty children vary markedly and personality differences are clearly defined. A child may pass his age test and yet differ materially from another child with the same score. One is active, playful; the other is quiet, thoughtful; a third may be looked upon as pre-precox, and never arrive there.

Again, certain primitive or atavistic influences seem to change personality. One child runs away; it measures up well, yet the "wanderlust" is there; another delights in making fires—a juvenile pyromaniac—a third cannot tell the truth, a fourth steals whenever it has the opportunity. Yet all of them appear normal, or rather like other children otherwise.

This will be brought home to an observant psychologist or medical advisor when making mental tests, that one child moves rapidly and attacks problems entirely differently from another. Temperamental and personality differences are marked.

Any one observing these children over some period of time would soon begin to classify them and if he makes later tests, say, at graduation from school, would be surprised at the difference in end-results obtained by modern education. He will find the mechanically inclined, the child with literary predispositions, the musically, the artistically predisposed, all coming out of the same pedagogical stew-pot. But, more than that, he will find children who are "shut in" apparently, who seem headed straight for dementia precox; or, again, he will find individuals with marked psychic or motor unrest who seem predisposed to manic depressive insanity. It is surprising however, *HOW FEW GET THERE*. In reading over the childhood of some of the world's greatest personages insanity might easily have been predicted for many of those who were later to lead men, to

carve their names on the pyramids of posterity.

Derelictions

With adolescence come other changes in personality. Here develops waywardness in girls, and too often criminal tendencies in the male sex. The police heads are disposed to believe that a great many cases of prostitution begin here, and what is more remarkable, that a type of woman exists who is a prostitute by nature. The Rockefeller investigation showed that but few girls were led astray; that they wanted the life. In frequent conversations with this type of woman I have often, in attempting to offer other modes of living, been repulsed by them. Asked if the frequent promiscuous contacts made no difference, these women have frequently told me that they enjoyed the variety. Certainly a pathologic reaction, if our present standards are correct. Yet these individuals are not below par. I have frequently been amused by figures showing the per cent. of so-called mental defect in these women, but that percentage has never been checked off against an equal group of so-called "normal" women.

Combativeness, the gang spirit, physical brutality, develop in the male as secondary sex characters. In "normal" individuals these can be directed into "normal" channels with ease; with the pathological types, with great difficulty, and sometimes not at all.

Here also develop the first signs of "inadequate personality," builders of castles in the air, the "mañana" type. I have seen much of this group in teaching and in vocational guidance work. The wish to do is there, but the consummation, never. However, these individuals can be harnessed mentally and under guidance generally make good clerks, secretaries or underlings, and in spare moments write harmless verse or join the Christian Science church or other cults. Give them an anchor and they are harmless, but let them go about of their own free will and they develop into criminalistic types. Their superficial brilliancy often times overshadows their inadequacy so completely that their dangerous aspect is forgotten. It is this type that are tools of "Red Leaders," rioters, gang heads or other strong criminal types.

Eccentricities

In adult life these types still exist, but differences are more clearly marked. The "crank," the "nut," may appear pathological when, perhaps, in the next generation he may be looked upon as a far clearer thinker than his fellow-man. Whitman, striding bare-headed through the streets, living in squalor, was a fool, yet he revolutionized modern poetry. Thoreau, giving up Harvard, refusing its diploma because he said it was not worth five dollars, living in a shack, becomes America's greatest philosopher. Emerson is reviled. St. Gaudens is laughed at. Millet is called the crazy painter. All had personality. One could cite the cases of many great men who had distinctly pathologic personalities, who were the idols of posterity.

Human Groups

It seems to me that when we enter the field of adult personality that we have no standard, and the nearest approach I can make to the problem is to classify people into the following great classes:

(1.) Those who react in general as their fellowmen. These are the "poor norms" or "happy norms," as you will, who do the greatest part of the world's work, who never dream, who plod along and procreate more of the necessary norms.

(2.) Those who are pathologically beneficial to the community. They may have all the ear-marks of pre-dementia precox or pre-paranoia, but they do create new thought and advance civilization.

(3.) Those who are pathologically detrimental to the community. These may or may not be legally insane, but their reactions are out of gear with what is considered best for the communal good.

(4.) And, finally, there remain those who are always inadequate, who may be molded to either the benefit or detriment of the community.

"The Glands of Personality"

In the light of latter-day researches I cannot pass over the relationship of the endocrine system to personality. Undoubtedly this vital organ group is potent in the development of temperamental changes.

Thyroid types are common. If a thyro-praevic condition is present we have apathetic states. If hyperthyroid conditions exist we have emotional instability and peculiarly a love for music.

Pituitary types are, if excess secretion is present, usually markedly artistic and emotional. If decreased secretion exists there seems to be a slowing up of the mental processes.

Gonadic hypersecretion tends to the production of hyperactivity mentally as well as physically.

But this field is still being worked out. Suffice it to say that Cannon, Crile and Fraenkel have set out fairly well the personality factor as related to endocrine dyscrasias.

Again, disease processes already present in an individual may act to vary his type. It is interesting to note how mental giants have suffered from infectious diseases. Chopin and Stevenson were tubercular, and not long ago some one, in going over the list of phthisical individuals who have achieved fame, wondered whether it would be necessary to inoculate the human race with disease to produce genius. The students of consumption have all called attention to the unusually optimistic frame of mind and the brilliancy of the intellect of the average tubercular. Syphilis also acts to produce personality changes, but usually in a detrimental manner, for paresis is a deteriorating psychosis, yet one cannot pass lightly

over Benvenuto Cellini, whom Jelliffe has diagnosed as paretic from his autobiography. Here an individual apparently in his pre-paretic stage has drawn a remarkable picture of his time that is classic and has also managed to create lasting artistic objects. This, however, is the rare instance.

Climate and Personality

Climate, too, seems a potent modifier of personality. Faurot, Deputy Commissioner of Police of New York City, has pointed out the variations of crime due to climatic and geographical location and certainly the keen observer will note dispositional changes with variations in the meteoric states. That the weather or temperature, *per se,* change personality I doubt. But the grey day, the rainy day, the bright day, cause varying reactions in individuals according to their "action patterns" and are, at times, the immediate cause for apparently pathological reactions.

It is thus evident that personality may be modified by many factors and that to pronounce an opinion of a pathological state is wrought with many dangers. However, our purpose here is *TO DO SOMETHING* to prevent and to cure, if possible, these states. To do so requires the establishment of a norm, and that standardization should rest in the hands of the neuro-psychiatrist and not those of the psychologist; or, better yet, a co-ordination of both will bring best results.

The well-established psychoses are comparatively easy of demonstration. Border-line states require much careful consideration. But—and here is the crux of the matter—can we foretell psychoses in their incipiency? Can we prevent them if prognosticated?

Pre-paretic states are usually accompanied by somatic changes that clear the way to treatment. But the pre-precox, the pre-paranoiac, the pre-epileptic manifestations, are today practically impossible of solution. It is easy to argue *"ergo hoc, propter hoc"* when making a retrospective diagnosis, but is it possible to look forward and tell which individual is pathological mentally? To date I think not. Eccentricity, unusual reaction to stimuli, peculiar trends may be suggestive, but that is *ALL.* When these states are recognized a careful study of the individual becomes necessary.

Treatment

Our task, however, must be divided. Parents must be educated in parenthood. This is one of the failures of all modern education. The average male is not fitted to be a father. Most women were educated to a degree in motherhood. Today's mad rushing after pleasure, gaudy attire and so-called sexual freedom is, however, rapidly destroying the "mother of yesterday." The understanding of the child, of its development, should be brought home in all our high schools, at least.

The teacher should, as part of his or her training, be prepared to note mental peculiarities. The school records should contain, besides the marks and the statements of nutrition and tonsillar removal, each teacher's estimate of the child, a record kept much as employment cards are maintained in large factories of today. They will act as guides to vocations as well as indicating pathological mental reactions.

Psychiatrists should be attached to all educational systems, not to replace psychologists, who obtain some of the symptoms, but as experts in medical diagnosis, to sum up the total picture as worked out by the parent, the teacher and the psychologist, as well as the physician.

In this way we can, perhaps, establish norms of personality definitely, and by grouping accurately, not in the vague impressionistic manner utilized today, the mental inequalities, perhaps it will be possible to point out a pre-paranoia or a pre-precox or other mental state.

A word before closing this topic. Today is an age of increasing insanity, of mental defectiveness. Everywhere crime is increasing, acts of violence are becoming more common. It has been easy for superficial thinkers to attribute the great unrest to the "World War." While it, undoubtedly, has played a part, it seems to the writer that the basic principles have not been recognized, and they hinge closely upon "pathologic personality." We have gradually, but surely, been getting away from the basic principles of *DUTY, TRUTH* and *WORK.* The seeking of the easiest way out, instead of the appreciation of the problem and its direct solution by work, is the mode. I recently talked to a pedagogue about making school lessons work combined with responsibilities and he insisted that everything in life should be made pleasurable, that effort should be reduced to a minimum. It is to be wondered whether he realized the pleasure and the beneficial effect upon the individual of work and duty accomplished for the sake of that work and that duty alone.

Modern life is producing pathologic reactions. A recent film caption read, "She was just like 100,000,000 other Americans, she wanted what she wanted when she wanted it." We are losing our poise, our conception of the basic principles of right and wrong and are developing "Detrimental Pathological Personalities." Therefore, it seems to me that we must take a stand in the matter. Just how to do so is a problem for all of us. It seems to me that the way out is for the physicians to form committees for study of the pathological forces at work everywhere, and especially it would seem that we should make an intensive study of the developing child, besides taking an active part in his education. The basic principles of duty and work, properly instilled, will do much toward the prevention of "Pathological Personalities."

Early Recognition the Vital Factor

in

ECTOPIC PREGNANCY

DIFFICULT DIAGNOSIS CONSTITUTES A PROBLEM REQUIRING THE PHYSICIAN'S KEENEST ABILITY

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Excellent Recapitulation; Illustrative Cases

Few conditions are as dangerous as ectopic gestation. Few conditions require as prompt and as efficacious attention as does this fatal disease. The excellent recapitulation herein presented, together with the cases illustrating the points dwelt upon in this paper, should prove of interest and value to both physician and surgeon.—EDITORS.

THERE ARE FEW abdominal conditions, which if kept in mind will aid so much in preventing serious consequences if recognized early, or saving life if recognized later, as ectopic pregnancy. By ectopic pregnancy or extra-uterine pregnancy we mean a pregnancy taking place outside the uterus. Pregnancies taking place in abnormal positions of the uterus are not classified as ectopic pregnancy, even though their termination might be just as serious as ectopic pregnancy.

The ovum may be fertilized and become attached at any point between the ovary and the uterus. The most frequent tubal pregnancy occurs in the median part of the tube, secondly, in the ampullary part of the tube, and thirdly, in the uterine or interstitial portion of the tube. The least frequent of primary extra-uterine pregnancy occurs in the ovary.

As the ovum continues to grow, the part enveloping it is stretched or distended. Adhesions or inflammatory changes take place around it and, finally, the part ruptures.

When the tube ruptures the consequences depend on the location of the rupture. The fetus escapes into the adbominal cavity if the upper part of the tube is ruptured and is called tubo-abdominal pregnancy. If the lower part of the tube ruptures between the folds of the broad ligament, an intraligamentous sac is formed. If the sac in the interstitial portion of the tube ruptures, the fetus escapes into the uterus and is spoken of as tubo-uterine pregnancy. If the ovarian pregnancy ruptures into the abdominal cavity it is called ovario-abdominal pregnancy. All these pregnancies, however, are secondary to the primary implantation of ovum and occur after the containing part ruptures and dislodges the fetus into the surrounding structures.

Etiology

The causes of ectopic pregnancy are numerous and all more or less theoretical.

1st. Inflammatory conditions of the tubes and ovaries, particularly gonorrheal infections. This acts by either causing congestion and swelling of the walls, thereby occluding the lumen of the tube and thereby preventing the passage of the ovum; or by causing a gluing of the mucous membrane of the tubes; or by forming blind pouches which catch the ovum or by causing loss of the cilia.

Tumors within the tube or pressure of any kind from without against the tube also causes an obstruction to the passage of the ovum. Pelvic adhesions bind down tubes and ovary and occlude the lumen. Cases of long standing, sterility, and disease of the corpus luteum are all given as causes.

Ectopic pregnancy may occur as first pregnancy in women married for some length of time without having been pregnant, or it may occur in multipara who have not been pregnant for some years or it may occur shortly after a puerperal infection or abortion. A pregnancy can occur simultaneously in both tubes or a tubal pregnancy accompany a normal uterine pregnancy—an illustration of which will be described later.

Pathology

The most common form of ectopic pregnancy is tubal pregnancy. The ovum burrows its way into and implants itself in the walls of the tube, corresponding to pregnancy in the normal uterus. A decidua may or may not be present, but usually a decidual tissue is found around the implantation of the ovum. As the ovum grows the tubal wall is stretched, causing the lumen of the tube to be occluded and a necrosis of the cells of the tube opposite the ovum. At the same time the villi erode their way between the muscle fibres and the blood vessels. Conditions in the tube are quite different from those present in the uterus. In the uterus the decidua is thick and the mucous membrane acts as a protective membrane. The blood vessels are small and the muscle fibres of the uterus

are capable of much stretching and hypertrophy. On the other hand, in the tube there is little or no decidua, the blood vessels are large and the muscle fibres are not adapted to marked stretching and hypertrophy. The villi soon eat their way into the blood vessels and muscle fibres of the tube and cause a destruction of same.

The ovum now continues to grow, causing at the same time a slight hypertrophy, stretching and over distention of the tube. About the second or third month, usually due to some traumatism as straining at stool, coitus, bi-manual examination, a sudden jar, one of two conditions occur—either a rupture or tubal abortion.

Rupture usually occurs when the pregnancy is in either the isthmic or interstitial portion of the tube. This rupture may be one of two kinds—intraperitoneal or retroperitoneal. If the rupture is intraperitoneal the fetus is usually discharged in the peritoneal cavity and with it concomitant hemorrhage and hematocele is formed. Shortly after the blood reaches the peritoneal surface, it has a tendency to clot and the peritoneal surface also throws out fibrin, which causes the formation of adhesion between the tubes, intestines or the various abdominal viscera enclosing the free blood between these structures. This collection of blood between these walled off structures is called an hematocele. If the hemorrhage is continuous or repeated, the newly formed sac may become overdistended and rupture, causing a second hematocele and in this way the woman may become very anemic and die of repeated or continuous loss of blood.

At times the hemorrhage is very acute and profuse and the woman in a short time may die of shock or hemorrhage, or if she survives a large hematocele is formed.

If the rupture is retroperitoneal, the hemorrhage usually takes place between the two layers of the broad ligament, the blood extending to the side of the uterus and to the lateral wall of the pelvis. This hemorrhage is controlled, as a rule, by the pressure due to the limited and confined space of the broad ligament and this is termed a hematoma.

Tubal abortion takes place when the tubal pregnancy is in the fimbriated end of the tube because the ovum is near the open end of the tube. The abortion usually takes place into the abdominal cavity and the pregnancy, if continued, has its sac adherent to the intestines, uterus, ovaries, or omentum. The placenta usually becomes attached to the tube, ovum, uterus, or abdominal wall.

When the pregnancy is in the interstitial part of the tube, abortion takes place into the uterus, but this is a rare occurrence.

Ovarian pregnancy is a rather rare form of ectopic pregnancy and is usually secondary to tubal pregnancy. Tubal pregnancy may become detached from the tube and attached to the ovary and in that way give the impression of being a primary ovarian pregnancy. To be certain that this is a primary ovarian pregnancy, we must make sure that the structures outside of the ovary are completely intact.

As the ovarian pregnancy continues to grow, it distends the ovary and finally causes it to rupture, causing the same effect as was previously described in tubal pregnancy, namely rupture or abortion with their after-effects, hematocele or hematoma.

After tubal abortion takes place, the fetus and blood clots are usually absorbed. When tubal rupture takes place, if the placenta becomes detached by hemorrhage or is torn, the fetus usually dies and is absorbed and the blood clots usually undergo liquefaction and absorption.

If the fetus escapes alive, it continues to grow as a secondary abdominal pregnancy. The fetus may escape either by itself or inside the amniotic sac. A new sac is now formed by the adhesions set up to the intestines, uterus, omentum, or abdominal wall. The placenta may be attached to either of these structures, but is usually attached to the organ adjacent to its primary attachment. The blood vessels in the structure around the placenta enlarge and increase in number to a marked extent.

The child continues to grow until term. At term the placenta usually becomes separated from its attachment by hemorrhage and the fetus usually dies. After the death of the fetus, either at term or earlier, spurious labor sets in, at which time the uterine decidua is thrown off.

After the death of the child, the soft parts become macerated, the amniotic fluid becomes absorbed, the remaining mass undergoes suppuration—the pus finding its exit through the adjacent structures, either the bowels, bladder, vagina or abdominal wall.

The other termination is mummification in which the child is dried up, calcium salts deposited, giving us a lithopedion which may be present in the abdomen for years.

During ectopic pregnancy, the uterus hypertrophies the same as in a normal pregnancy up to the size of a three-month pregnancy and contains a decidua which is usually thrown off when uterine contractions set in.

Combined extra and intro-uterine pregnancy is rare, and when present, uterine abortion may preceed or follow tubal rupture. In either case the condition is grave. If the tubal pregnancy is recognized and removed, the uterine pregnancy may go to term.

Symptomatology

The symptoms of ectopic pregnancy vary markedly, depending on the stage of the pregnancy and the degree in which the changes take place. As a rule the patient gives a history of having missed one or two menses and complains of a colicky pain on one side of the pelvis, due to uterine or tubal contraction.

There is usually a slight bloody discharge from the uterus which is usually dark in color and makes one think of an abortion. The concomitant symptoms of pregnancy—nausea, morning vomiting, headache, etc., are usually present.

In other cases the patient has no prodromal symptoms and the first symptoms are after straining or coitus, those of a ruptured tube or tubal abortion, namely extreme pelvic pain, dizziness, pallor, uterine bleeding, shock and the symptoms of internal hemorrhage, cold, clammy skin, pallor, rapid feeble pulse, air hunger, etc. There is usually irritation of bladder and rectum, causing frequency of urination and diarrhea.

These symptoms may be of such severity as to cause death in a few hours, or the patient may react from this primary rupture and hemorrhage and in a few weeks, with an increase of blood pressure, have another rupture and possibly die as the result of shock and hemorrhage. As a rule, in cases of ectopic pregnancy the shock and symptoms of hemorrhages are out of all proportion to the actual amount of blood lost and the shock is partly caused by the sudden contact of blood with the peritoneum. A bluish discoloration around the umbilicus has been described as present in extra-uterine rupture with hemorrhage.

On pelvic examination before the blood has clotted in the first twenty-four hours, nothing is revealed, but symptoms of pregnancy. After the first twenty-four hours when blood has clotted, a mass is felt in cul-de-sac if rupture has been intraperitoneal or hematocele is present. If rupture has been retro-peritoneal, a hematoma is felt in broad ligament extending from side of the uterus to pelvic wall.

The patient now usually shows signs of a low grade pelvic peritonitis—pain, nausea, vomiting, constipation or diarrhea, a slight fever, rapid pulse, anorexia, slight jaundice, frequency of urination and pain and tenderness of the lower abdomen.

The symptoms may continue for several weeks, at which time the clots may be absorbed and the symptoms subside. In other cases the blood clots may undergo suppuration, in which cases the symptoms above described become exaggerated, namely, pulse is increased, temperature rises, pain and tenderness increase, nausea, vomiting and symptoms of cachexia and absorption soon become manifest. If this process is not interfered with, the suppurating mass usually evacuates into the intestines, rectum, bladder, abdominal wall, causing a purulent sinus, and thereby giving an exit to the pus. If this does not take place, the patient usually dies of sepsis.

If after the rupture, the fetus continues to grow, symptoms of peritoneal irritation arise, namely, abdominal pains and tenderness, nausea, vomiting, diarrhea or constipation, frequency of urination, and loss of strength. Fetal movements are more pronounced than in uterine pregnancy. The symptoms and signs of pregnancy continue and the abdomen enlarges in size. The enlargement may be median or assymetric.

If the fetus dies, the symptoms and signs of pregnancy disappear and the patient soon develops the symptoms of a decomposing foreign body—the symptoms of toxemia or sapremia—anorexia, subnormal temperature, rapid pulse, jaundice, coated tongue, loss of weight, etc. If this process is not relieved by surgical procedure or by suppuration into the bowels, bladder, or abdominal walls, the patient dies of sepsis, peritonitis or exhaustion.

If the fetus becomes calcified—lithopedion formation, the symptoms of pregnancy disappear, involution of uterus takes place and the symptoms of peritoneal irritation subside.

Diagnosis

The diagnosis of early ectopic pregnancy before rupture is usually made where a woman with a previous history of pelvic inflammation and who has been sterile for some time, complains of having missed one or more menstrual periods, of sharp colicky pains on one side of the abdomen, with more or less bloody discharge from the uterus. The patient may complain of early symptoms of pregnancy, such as morning nausea and vomiting, etc. On examination, we usually find softening of the cervix, enlargement of the uterus and a mass to one side of the uterus. The examination should be made very gently lest we rupture the tube by rough manipulation. To make a diagnosis on the above symptoms would be making a diagnosis on a classical picture. In the average case, however, all the symptoms are not present and a diagnosis must be made from a few of the above symptoms.

The diagnosis of the ruptured ectopic pregnancy is made when a woman who gives the above history, or who has apparently not complained, with the exception of possibly having missed one or more periods, suddenly complains of violent low abdominal pains, dizziness, and soon becomes unconscious, with pallor, subnormal temperature, cold, clammy perspiration. On examination at this time, the uterus is soft and enlarged, there is uterine bleeding and no mass can be felt in the pelvis. In twenty-four hours a mass can be felt in the broad ligament beside the uterus if the rupture has been retro-peritoneal and resulted in a hematoma, or in the posterior fornix, pushing the uterus on to either side, if the rupture has been intra-peritoneal and resulted in a hematocele.

The diagnosis of secondary abdominal pregnancy is made in a pregnant woman on the history of having had slight pains in lower abdomen in first two or three months of pregnancy, and complains of very painful fetal movements low in the pelvis, irregular bloody discharges from uterus, marked abdominal pain and tenderness, frequency of urination, invalid-

ism and various intestinal symptoms. On examination, the cervix is found to be soft, the uterus is empty, though enlarged, and the fetus enmassed on the outside of the uterus; fetal heart sounds are heard. The fetus seems to be directly under the abdominal wall. The abdominal tumor increases in size to term, spurious labor is present at which time there is uterine bleeding and discharge of decidua from uterus.

Ectopic pregnancy must be differentiated from various other conditions. The first and most frequent condition to be kept in mind is abortion.

Abortion	*Ectopic Gestation*
In abortion the onset is gradual with regular intermittent pains in the lower abdomen, resembling labor pains. The external hemorrhage is usually profuse, although it may be moderate in amount.	The onset is acute and pains are irregular and colicky and usually confined to one side.
The symptoms of hemorrhage and shock correspond with the visible amount of blood.	On examination hemorrhage is dark in color and usually very scant.
On examination we usually find the cervix dilated and pieces of placenta tissue or fetus in the blood clots or in the uterus.	The symptoms of shock and hemorrhage are out of all proportion to the apparent blood loss.
	On examination, the decidua may be found discharged from the uterus and a mass felt beside the uterus.

Every case of abortion, however, should be carefully examined for ectopic pregnancy by bi-manual examination before curettement and should marked shock or collapse come on after a dilation and curettment, one should immediately think of a ruptured ectopic pregnancy.

At times there is difficulty in differentiating pregnancy in retroflexed uterus from a hematocele in the pouch of Douglas.

Retroflexed Uterus	*Ectopic Gestation*
In retroflexed uterus, there is typical history of pregnancy, and pains and hemorrhages are slight, if present.	History suggestive of ectopic pregnancy. Marked colicky pain, to one side and slight bleeding.
On examination, angle is felt at cervix and place where fundus should be is empty.	On examination, angle is felt at cervix and fundus is found bi-manually in normal position and in front of mass. Mass is irregular, soft, not movable and does not feel like pregnant uterus.
Fundus is smooth, hard, and movable, and feels like pregnant uterus.	Urinary symptoms usually present after fifth month.
Urinary symptoms are present early.	

Further Diagnostic Consideration

It is sometimes difficult to make a differential diagnosis of an early normal pregnancy complicated by an ovarian cyst or intraligamentary fibroid from an ectopic pregnancy unless the physician has previously examined the patient and been aware of the pathologic condition. If an operation is performed in these cases for ectopic pregnancy, this mistake is pardonable as the pathologic condition can be corrected at this operation.

Ovarian cyst, salpingitis, intraligamentary fibroids, hydrosalpinx, and similar conditions without any pregnancy must be differentiated from ectopic pregnancy. In these conditions the uterus is found unchanged alongside the mass—symptoms and signs of pregnancy are absent, and the history of the case should be remembered. In a marked case of salpingitis or pyosalpinx, we usually get a history of previous pelvis infection, such as gonorrhea, there is marked pain and tenderness, leucorrheal discharge, fever, leucocytosis with increase of polymorphonuclear and the swelling and tenderness is usually in either side of uterus.

A rupture of ectopic pregnancy must be often differentiated from a ruptured pus tube or twisting of ovarian cyst with its pedicle. The points to be considered are the previous history and the symptoms and signs of pregnancy being absent in these conditions if not complicated by pregnancy, and the presence of jaundice in ectopic.

We must sometimes differentiate appendicitis from a right tubal pregnancy. In appendicitis we consider the history, the absence of symptoms and signs of pregnancy, the presence of marked pain and tenderness high up at McBurney's point, the fever, leucocytosis, nausea and vomiting and on examination find the uterus tube and ovaries to be normal.

In ectopic we consider the history, pain and tenderness is low and not so marked, absence as a rule of fever, nausea and vomiting, presence of symptoms and signs of pregnancy. The patient is anemic and on pelvic examination we find symptoms of pregnancy and a mass alongside the uterus is low in pelvis.

From the above description it can readily be seen that the diagnosis is at times very difficult, if not impossible, and in such cases the patient should be watched and be very carefully observed in a hospital and all pelvic examinations and manipulations made very carefully with as little traumatism as possible.

Prognosis

The prognosis depends on the time at which this condition is recognized and the facilities for immediate operation after rupture takes place. If recognized before rupture and operated, chances are very good. If recognized immediately after rupture and immediately operated on, chances for patient are also good. If rupture takes place and is not recognized and not immediately operated on, patient usually dies of shock, hemorrhage or anemia, due to successive hemorrhages, of suppuration of hematoma or hematocele.

If patient does recover without operation, adhesions and low grade pelvic inflammation usually remain, which impair the health of the patient.

Treatment

The treatment comprises two divisions: before rupture and after rupture.

Before rupture, as soon as diagnosis of ectopic pregnancy is made, abdomen should be opened and tube containing fetus removed.

After rupture, if called immediately after the at-

tack, the woman is usually in shock. The abdomen should be immediately opened, tube picked up, uterine and ovarian arteries clamped, tube and fetus removed and blood clots removed. This operation should be done very quickly as the patient is usually in very poor condition. If the abdomen is filled with blood that is not clotted, it may be removed in a receptacle and transfused into vein of patient. Otherwise saline transfusion should be given immediately after clamping of blood supply, or sooner if absolutely necessary.

If the patient is seen some time after rupture and hematoma or hematocele is formed and patient seems to be improving, patient may be let alone, as the blood clot and fetus may undergo absorption and patient make spontaneous recovery. If patient, however, shows signs of secondary hemorrhage, she should be subjected to immediate operation for removal of hematocele or hematoma.

It is wise at all times, if conditions warrant, to remove hematocele or hematoma, thereby preventing secondary suppuration and in this way speeding up recovery which without operation extends over a period of several months.

The treatment of secondary abdominal pregnancy is operation at about eight and one-half months, and removal of fetus. The sac is usually made up of bowels, bladder, omentum and abdominal wall, and the placenta is usually attached to any of these organs which have a very rich blood supply. The treatment of sac and placenta must, therefore, greatly depend on conditions present. If the sac and placenta can be removed without endangering the life of patient, it should be done. However, in a great many cases, removal of sac would cause a rupture of bowels, bladder, etc., with its marked hemorrhage and added removal of placenta would cause very marked and often uncontrollable bleeding. In such cases sac should be fastened to abdominal wall, and the placenta removed, if feasible—otherwise left alone and sac drained, thereby getting rid of the placenta and part of sac by secondary suppuration, breaking down of the tissues and drainage.

When the diagnosis of lithopedion is made, this should be removed to prevent any later suppuration, and discharge of some of the structures.

Cases of Both Ectopic and Uterine Pregnancy

No. 1. Case of Dr. M. Z. Gearhart. Patient, H. B.; age 41. Youngest child eight years of age, last menses three months ago; was under care of another physician for uterine bleeding and pain in lower abdomen for two weeks. Patient was then put to bed, and vaginal examination showed the opening in the cervix to be of one finger dilatation and the uterus the size of three months' pregnancy. D. and C. was done and fetus and placenta removed. Patient did well and made good recovery. On tenth day, when patient was to be discharged, she suffered severe attack of abdominal pain and symptoms of internal hemorrhages, shock, cold, clammy sweat, rapid pulse, air hunger, marked pallor and subnormal temperature. Hemoglobin reached 16%. Blood transfusion was done, hemoglobin increased to 50%. On examination mass could be felt in left abdomen and vaginal examination revealed a mass on left side beside uterus.

Abdomen was opened and found ruptured left tubal pregnancy, which was removed. Patient made complete recovery.

No. 2. Secondary abdominal pregnancy; case of Dr. Darrah. Mrs. L. A.; age 27. Family history negative. Patient married, has two children, living, ten and nine years of age, respectively. Has had a miscarriage between the two children.

Menstrual periods began at fourteen years and always regular. Duration four days, two pads daily. No menstrual pains.

Last regular period began June 28, 1921, and in about two weeks developed some pain in pelvis and back, accompanied with nausea and vomiting. Patient was treated for three and a half to four months for inflammation of the womb. Was able to work in factory at intervals, but had to stop on account of pain in abdomen and legs about two months ago (April 1, 1921). On May 30, 1921, had severe pain in back and abdomen, but had no medical attention and no vaginal bleeding. On June 8, 1921, at 7 A. M., patient was taken with severe pain in back, but had no abdominal pain and no bleeding.

Admitted to hospital at 9.15 A. M. with pain in back and left side of abdomen, with great thirst and some slight dyspnoea.

Physical examination showed patient to be well nourished wtih irregular distended abdomen, apparently of about seven months' pregnancy. Irregular mass in upper right abdomen—below costal margin. Large soft mass along entire left side of abdomen—no fetal movements nor fetal heart sounds.

Vaginal examination showed uterus enlarged to about size of three months' pregnancy and pushed somewhat to left of pelvis—large boggy mass felt on left side of abdomen bi-manually—no vaginal discharge.

Patient had great thirst, very restless, and evidence of air hunger; lips pale and becoming increasingly so; pallor of fingers and finger-nails gradually developing cyanotic appearance. Heart rate 130, but normal in action. Lungs negative.

Operation

Median incision—gush of blood immediately after opening of peritoneum; also large blood clots. Seven months' living fetus extracted from upper right side of abdomen from a free position among intestines. Cord clamped and ligated immediately, ruptured tube left side. Placenta fastened along side of spinal column, very adherent. Placenta removed by forcibly detaching same, and amniotic sac sutured to peritoneum. The bleeding from placental site controlled by firm packing of iodoform gauze—skin sutured by silk worm gut.

Patient was given intravenous on operating table and condition was poor.

Patient made complete and uninterrupted recovery.

A Practical Survey of

GALL BLADDER DISEASES

"WHY SHOULD NOT A DISEASED GALL BLADDER BE REMOVED JUST AS MUCH AS A DISEASED APPENDIX?"

By G. S. FOSTER, M.D.,
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Surgeon to Notre Dame Hospital.

Surgical, Not Therapeutic

Gall bladder diseases, experience has shown, yield more readily to surgical than to therapeutic measures. However, the scalpel must here cut with caution and care, as is asserted by Dr. Foster in this short, clear-cut, sensible paper.—EDITORS.

THE PROFESSION today is very well agreed regarding the treatment of a diseased or infected gall bladder. When the appendix was first recognized as a pathological entity much medical treatment was instituted and many failures resulted. The high mortality of appendix cases under strictly medical treatment gave rise to further study of the subject. Surgery came into its own and has been most successful in bringing the mortality down to near the base line. In gall bladder diseases, surgical treatment has well proven its worth and has not alone lowered the mortality, but, say, effectively ameliorated the suffering and relieved the condition. No doubt, as time goes on, this trouble will be recognized as a real surgical entity which should be thus treated. Even now the medical profession is very well agreed on this point.

When a surgeon sees a gall bladder that is infected or otherwise pathological, this question, when he has made the diagnosis, will arise. Is this a case for cholecystotomy and drainage or one for cholecystectomy alone? Experience with surgical treatment of pathological gall bladders impresses one with the better results obtained from a cholecystectomy in the majority of cases. Brickner has well asked if a gall bladder is diseased, why should it not be removed just as much as an appendix?

Careful study of a series of gall bladder cases some treated by cholecystotomy and drainage and others by cholecystectomy, will show far better permanent results by the latter treatment. Removal of the diseased gall bladder rids the local area of the pathology and should give far better results. It would seem that men of the surgical world are rapidly becoming adherents of cholecystectomy in preference to cholecystotomy and drainage in the majority of their cases.

Looking back over gall bladder cases of the past decade I find that in our own clinic we are unconsciously doing more cholecystectomies and with better results. We also find that cases where cholecystotomy and drainage has been done either by one of us or by someone else are continually coming in with the old complaint and a recurrence of the trouble. Where stones have been found several years ago and the gall bladder drained we are continually having these cases come in and find that stones have again formed. No doubt, many others are meeting this same situation.

Contraindications to Cholecystectomy

Of course, one meets cases where for one reason or another it would not be advisable to remove the gall bladder. For instance, an old chronic gall bladder in a person of advanced years, sixty-five or more where at operation the gall bladder was found very firmly imbedded in adhesions and much matting. Here we face a condition and, on the whole, a poor surgical risk. Such cases demand the best of surgery and expedient work with extreme care, as in such cases we so often find a coexisting lymphangitis which complicates the cases. Here the operator must decide the modus operandi on the spot after the abdomen is opened. Our experience leads us to favor cholecystotomy and drainage in these cases.

At best we are facing a fair degree of hemorrhage if we attempt to dissect out the gall bladder. Then, again, drainage is of material help in clearing up the lymphangitis. We can also look to nature for much assistance in producing a post-operative atrophy of the gall bladder itself after drainage has cleared the field locally. This is a fact worthy of honorable consideration. Then, again, less luck is experienced by the patient in this type of case.

There are types of pyo-cholecystitis which come in as urgent emergencies. Those patients are many times in rather poor condition and not good surgical risks for any lengthy operation. They will, however, do well on the average if the gall bladder is opened and drained.

So many times these abscess gall bladders have very thin walls and an attempt to dissect out the offending member will result in rupture at a disadvantageous point for good drainage. Also, the surrounding field cannot be kept clean and there is a likelihood of contamination if the pus be virulent. Of course, many of these cases have old chemically worn out pus of no material value so far as contamination is concerned. We have many times taken cultures of this pus and could not produce any growth on the most favorable culture media.

These two types of gall bladder just reviewed seem the ones most fitting for a cholecystotomy and drainage in so far as our experience with cases goes. We have learned to respect the septic gall bladder with abscess and the one covered with old chronic, well-organized adhesives and an associated lymphangitis and chronic pancreatitis as warranting only one procedure—carefully established drainage.

However, one other condition is quite often met which demands cholecystotomy and drainage. This is where we have an acute or chronic pancreatitis with its existing lymphadenitis and lymphangitis. In these cases the gall bladder itself will not often be markedly, if at all, involved. Here we seek to produce drainage of the area which is best accomplished through drainage per gall bladder route. Such procedure gives very satisfactory results. The hardened and undular or reddened and swollen pancreas will soften and reduce under this treatment. The lymph glands will drain and the channels become normal again.

The Affected Gall Bladder, Recurrence and Malignancy

Most other types of gall bladder diseases require removal of the offending member. They can well be compared with cases of the appendix. Who would think of leaving a chronic, sub-acute or acute appendix in the absence of abscess formation? Who would think of opening the appendix and draining it to cure the condition? If such a procedure were to be universally followed how frequently the attacks would occur and how futile would be the attempt to produce a cure by such a method? In just the same light we must look at the diseased gall bladder. In the past we all have seen gall bladder cases readmitted and requiring a secondary operation which merely emphasizes the need of a cholecystectomy in many cases.

The presence of stones in the gall bladder always calls for removal of the gall bladder, for cholecystotomy and drainage merely gives temporary relief. Later on the stones return and a secondary house cleaning is necessary.

This condition infrequently seen in gall bladder disease should not be passed without consideration. Malignancy in or about the gall bladder is a most serious thing. Just what good will come from draining the gall bladder is a grave question. If we attempt to remove the gall bladder under such circumstances we are pretty apt to run up against severe hemorrhage. Possibly when this condition is met the best thing to do is to withdraw. Later on, perhaps, at the time radium treatment can be given. We must consider the use of the x-ray in these cases or some toxine such as Coley's fluid.

As a rule malignancy in or about the gall bladder is better left without further surgical interference when found after opening the abdomen. It is far better to withdraw modestly than to shorten life or produce some severe shock without accomplishing any material good in the end. The writer believes these cases should be left to radium, x-ray or toxine therapy It is better judgment to hang up the "Stop, Look, and Listen" sign than to further damage the locality. Possibly an exception to this rule might be in a very small area where the pathology could be quite readily removed, but these cases are very rare and post-operative treatment should be left to radium, x-ray, or toxine influences.

On the whole, however, in most cases, the gall bladder should be removed. This will give far the better results in the percentage of average and will bring about a very satisfactory permanent relief or cure as you may care to term it.

Just a word as to the advisability in cholecystectomy. We find that we are most and more frequently closing the abdomen. However, we do not make this a steadfast rule. It may be said that drainage in these cases is not essential to avoid post-operative sepsis, but rather that the drain in the form of a two-inch gauze pack serves to check serious oozing. This would seem the only real reason for establishing extra abdominal connection. Whenever in doubt as to the steadfast control of serious oozing we carry out the rule of using the gauze pack and removing it under gas-oxygen on the fourth day.

Résumé

1. Cholecystectomy seems to be the proper operation in the average pathological gall bladder case.
2. Drainage is not established in cholecystectomy for the real purpose of drainage, but to control serious oozing.
3. Real drainage is not necessary, but rather the use of a firm gauze pack when there is any question of leakage of the circulatory system.
4. Pyo-cholecystitis demands cholecystotomy and drainage.
5. Multiple adhesions with risk of severe hemorrhage demand cholecystotomy and drainage.
6. Pancreatitis (acute or chronic), with co-existing lymph channel or duct involvement demands cholecystotomy and drainage.
7. Malignancy in or about the gall bladder is generally not purely surgical except for exploration

or diagnosis. Radium, x-ray, or toxine seem fitting as after treatment.

8. Drainage is not necessary in cholecystectomy.

9. Far better and more permanent are the results from cholecystectomy than from cholecystotomy and drainage in the average case.

Obscure Etiology of Trifacial Neuralgia

Complicates Satisfactory Treatment

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Logical and Sensible Bases

Trifacial neuralgia results from a variety of factors of imperfectly understood origin. Because of this obscure etiology, the treatment is equally unsatisfactory. To remedy this, the paper of Dr. Lurie attempts to unravel the complicated elements involved and explain matters on logical and sensible bases. Its practical value, then, is self-evident.—EDITORS.

THE ETIOLOGICAL FACTOR in many conditions which are old in their description may be more simple than is often considered. This is being substantiated almost daily by the explanation of many heretofore unexplained origins of conditions in the better understanding of physiological chemistry, bacterial flora and growths, as well as the influence on bacterial growth of physiological changes, and vice versa. The trend of thought is definitely changing from bacteriological to chemical influence and to the chemistry of bacterial action.

In tri-facial neuralgia every one of the number of etiological factors have been considered and many new ideas have been originated and treatment has been directed along each of the various lines individually and with little or no great or marked success. From time immemorial the anatomical reason for this rather intractable condition has been considered as existing in the teeth and in consequence countless numbers of patients have suffered the loss of teeth of various numbers and have been the subjects of much surgery directed at the nerve trunks and the ganglions. Little, if any, of this surgery has been phenomenally successful except in the cases of extreme radical procedure and then often some mutilation has resulted.

The point for study which seems to have been the most prominent in the cases which have come under my observation has been that of the associated anatomy and anatomical changes the result of physiological development or of surgery and repair. By surgery, in this instance, is meant the extraction of teeth or perhaps *antrumal* surgery.

Group Histories

The history in the majority of cases of this character can be divided into groups. In the first group are those cases where the history of the neuralgia begins at about the time of the eruption of the permanent molars, about 10 to 14 years of age. This group of cases generally present a good set of teeth. The patients seem well in every other respect and their only complaint being that of neuralgic seizures which gradually become more and more frequent. These patients, if fortunate enough to escape the development of dental caries to any great extent usually have all their teeth. Some of them found their way into the hands of radicalists and in them teeth in varying numbers from one to all will be found missing. The second group are those whose history points in equally early origin of the condition, but who have not been as fortunate in the possession of sound teeth. In this group one finds a great variation of the local mouth condition and appearance and likewise a variation in the teeth in the dentures. In the third group are the cases of more recent history, that is, the development of the neuralgia well after the complete eruption of the usual number of permanent teeth. In this group there is to be noted those patients that have, or have not infected teeth which have been treated for a number of years and in various manners. Here again we find the teeth missing in varying number and combinations. In all groups are the cases in which unerupted teeth and impacted teeth are to be found or have been found and removed.

A Poly-phased Etiology

The great difficulty in determining a single etiological factor in cases of this character, scattered over so wide a possible grouping, with and without the possibility of the incident of infection, with and without the possibility of anatomical alteration or change due to development and with or without

surgical interference, can be noted at once. Here we see that growth, either naturally or in repair, infection and even the healing after surgery do not play a positive nor absolute role as the etiological factor, yet are coexisting factors in all cases. Combinations of all these factors and many more seem to fail as the positive etiological factor, yet by a careful study a constant finding might be discovered.

In a careful study of the development of the tissues of the facial area and particularly the nerves and their end fibres as expressed in the fibres of a root canal, there can be noted the possibility for the easy development of a tooth that might in some manner subsequently become the causative factor of a neuralgia. In the formation and development of a tooth the apical or root end, during the early stages, is wide open and permits the easy accommodation of all the tissues which later go to form the pulp-chamber and root canal contents. As the tooth develops and the root takes form, the apical end closes down and constricts these tissues. This closing down or constriction continues throughout life-time until in the senile condition the apical opening is often entirely obliterated as a canal, yet, no doubt, permits the passage of some nerve fibres and vessels to nourish the tooth, in conjunction with such fibres and vessels as come through the peridental membranes. One question presents itself at this point very forcibly, that is, what are the influences, either physiological, chemical or bacterial, which may develop in conjunction with or as the result of surgery or injury, which may cause a condition of neuralgia?

Nerve fibres, and particularly those which are distributed to the teeth during an ordinary lifetime, seem to withstand and undergo great variations and, perhaps, greater alterations and more changes than those in any other part of the body or attached to any other organ or set of organs. Another difference over other innervated organs, which occurs in teeth and nowhere else is that with a dual nerve and blood supply a tooth often remains in position indefinitely even after the loss of the major portion of either or both nerve and blood supply. It may be that in the study of the changes mentioned and the differences described one may find a partial explanation if not a complete one for the origin of neuralgia.

Modus Operandi

For the present let us consider what takes place in the nerve trunks and fibres elsewhere about the body in the event of injury, removal or amputation of an organ or member.

Perhaps the best illustration possible, and one in which the possibility of pressure and injury of an abrasive character, similar to such as is met with in the mouth, is to be found in nerves after amputation of a member. Tenderness of the stump and scar for a lesser or greater period is a common finding. After the complete healing and cicatrization there often follows a painful stump. The pain in these stumps is of a neuralgic character and, at times, excited by a definite and specific form of irritation and which is found to be always similar in application. This irritant sets up pain of varying intensity. If long enough continued the patient describes the condition as a cramping of toes or fingers or a bending or pressure on a certain joint. The description is always the same. This pain is excruciating. The neuralgia patient describes a definite irritant or pain on irritation which occurs at about the same time. The amputation stump patient comes to operation and a nerve is discovered in the scar at a point where it may be irritated by pressure, heat or some other form of irritant. Many of these nerves are found to have developed a neuroma on which the guilt of pain, etc., is fastened. Many times the excision or resection of the nerve trunk and neuroma have the desired effect. Pain and other symptoms are relieved.

Let us now draw an analogy between the condition as it is to be found in the amputation stumps and in and about the tooth socket before and after tooth extraction.

The development of a tooth and the changes which take place in the root canal have been partially described. From this description it can be noted that the possibility of irritation is unlimited. What are the possible conditions which simulate a painful neuroma and how do they develop, is the next natural question?

Given a case in which an accident occurs to a tooth. A pulpitis develops. This may subside quickly or continue to the time of the death of the pulp. In these cases there is often an early destruction of periapical alveolar tissue. Interference directed to the relief of the condition may save the tooth through the extirpation of the pulp. By this operation, the nerve and root-canal contents, blood vessels, etc., are cleaned out from the canal and the putrid tissue removed and the irritation relieved. The remaining canal is filled with some foreign non-absorbable material. Everything conducive to healing is done and often healing takes place.

What happens? The inflammation periapically causes a loss of bone substance. Within this inflammatory area the destruction of nerve tissue takes place. After the subsidence of the active infection and inflammation through any manner of treatment absorption of some of the debris takes place and regeneration begins. The nerve fibre begins growth at least from the terminal neuron on. That portion

[*Conclusion of this Article on Page 736*]

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practioner must be recognised. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

Have High Educational Standards Become a Danger?

Just What is the Goal the Medical Profession is Seeking?

ARE WE LOSING SIGHT OF EVERYDAY NEEDS OF EVERYDAY PEOPLE?

The Function of the Physician Is to Treat People

People are getting heartily tired of being sent from specialist to specialist, diagnosed and pawed over galore, and no real treatment administered.

Patients should be considered as something more than scientific problems. After all, the patient is a human being, even as you and I. No matter what the developments of medical science, the work of the medical profession still is and always will be to treat humans, whether to prevent disease or to cure or to manage it. To so immerse students in scientific technicalities and to develop such an ultra-scientific zeal that they lose interest in the human beings for whom the science has been designed, is a case of the tail wagging the dog with a vengeance. A new emphasis [intelligently adapted to modern developments] of old truths is needed, and badly needed. And the longer neglected, the worse the need is going to become.

THE LITERARY DIGEST has reproduced from a religious publication an article that contends that clergymen in the denominations that exact high educational standards are trained beyond their congregations and are unfitted to serve successfully, or with happiness to themselves, except in big city churches; and the article draws a parallel with the medical profession, showing that advocates of peculiar dogmas, such as the "holy rollers," are thus gaining entrance into communities, just as are chiropractic and other peculiar cults in medicine, in both instances to the detriment of the people who are unable to find trained physicians willing to reside with them, or preachers who understand their needs.

The Article Goes on to Say:

"The good old 'family doctor,' who knew little of modern medical science but a great deal of common home remedies and usually a great deal of common horse sense, who always heretofore grew up in such communities and remained there to take adequate care of its medical needs, is fast passing out of existence. Such men are not able to meet the high tests now exacted for medical practice. And the young doctors who have spent many years in preparing themselves to meet these new medical requirements simply cannot be persuaded to go back and live and work in such environments. Even if the fees could be made large enough to make such a practice profitable, the long ugly drives over all kinds of roads, and the kinds of folks and homes to which they would have to minister would soon become so distasteful that no amount of money could hold most of them there. The consequence is that there is a most serious shortage of doctors in many such sections, and an actual suffering for medical attention in many places—and there is a tendency toward almost prohibitive prices in some communities. . . .

"Unless our medical associations devise some plan of admitting to the profession the kind of men who can serve and will serve such communities—serve them just as they now are and will be for a generation to come—and unless the various denominations do likewise for the ministry, a most grievous injustice will be worked increasingly against these unfortunate communities. *The Herald* is heartily sympathetic with the religious and medical leaders wno

are agitating for better trained men in their professions; but there rests upon these leaders a moral obligation to recognize the fact that a uniform rule will not do and that our ministerial groups and our medical associations must find some practical way to meet the imperative needs of this complex situation."

How We View It

Several physicians have spoken to us about this article and they are far from accord over it. There is, however, quite a general agreement in opposition to such elaborate pre-medical courses, to overburdening the medical curriculum with needless studies, and to unnecessarily severe requirements by state boards of examiners. Some physicians think that the post-graduate hospital requirements are unwise and fit the young doctor for city and hospital work only, not for general practice. In other words, the young doctor is spoiled in the hospital. Others stress the lack of reciprocity as working against locating in new places. Three physicians who have sons in medical schools complained rather bitterly about conditions.

We have been back on a visit to the school from which we graduated years ago. Remembering the hard benches and the very plain environments of the then lecture halls and laboratories, and how sumptuous we regarded the "New Library Building," we were astonished to find these substantial buildings all torn down to make way for a thousand-bed, fireproof hospital and other "marble halls" of beauty, fitted for rich men's sons to inhabit. The *new* "New Library Building" is very much finer than the state capitol thirty miles away; the "Alumni Hall" is a sumptuous structure; the millionaires of New York City have few club houses superior to those now at the University; a residence hall for law students and covering four city blocks has been provided for, and to "meet the crying need" for a proper place to practice football in winter time a tremendous structure over 300 feet long is in process of erection. Such are the times. But, when we asked what the graduating class in the medical school proposed doing, we were proudly told that all but two had "positions." These two were, presumably, going into medical practice because they had not "landed positions."

We also visited a theological seminary with which we were familiar years ago. Here, too, every brick had been torn down to make way for a replica of an old English castle; and nearly the whole graduating class there had "positions" and very few wanted pastorates.

As there has been a great cry about the need for rural hospitals, and one has recently been provided for by a rich man, we looked into that matter and found the architects busy planning *marble and mahogany* features galore, *hoping* to get the money after while to erect *sufficient wards.*

Spoiled

Now what is an old fellow—a mere doctor—to think? Everywhere it is sumptuous surroundings for "people of taste" and, of course, of wealth. A young fellow from a small town enters medical school, finds himself in *luxurious environments,* and is promptly *spoiled* for a life in the average town or rural community. This is *not* good. As it impresses us, it is not the so-called backward communities—usually not so backward after all—but the *materialistic and wealth-seeking tendencies of the age* that are spoiling medical and other professional students for an *average life in the average environment.* There is nothing in the medical studies themselves that will spoil any man or render him unfit for average professional work, no difference how high the educational standards may be. It is the *false standard of living,* not the educational standard, that is at fault. The Roman Catholic Church educates its priesthood far better than most Protestant denominations do with their ministers; but the candidate for the priesthood lives an abstemious life of hard discipline and training, and we do not hear in that church of priests who are utterly unhappy and unsuccessful except in a city parish. It is folly to say that average people need half-baked doctors or preachers.

The Practical Side

Nevertheless, the merely academic side in professional training is often over-stressed, too much attention being paid to pure science and too little to *applied science.* This is *markedly* the case in medicine. The graduate of a Class C medical school has often become *distinguished* because he had *real stuff* in him and *worked hard after graduation.* And we can educate a Class A graduate into *innocuous desuetude,* who then *stagnates* and *never amounts to much* as a *practitioner.*

Our standards are too *academic* and *theoretical.* As a *real test of fitness* a state board examination amounts to little; and yet *one of the main functions* of a medical school today is preparing its students to pass state boards.

There is sometimes a lot of *bluff* in education. We knew a young man required to pass off two years of Greek in a written examination. He had never even studied the Greek alphabet, but by means of a short by-mail course he passed the examination. Another by-mail student passed the Bar examination, and he soon became the attorney-general of a western state. Another man wanted credentials in a very practical avocation with a theoretical foundation that some class as a profession and others as a

(Continued one leaf over)

Bowel Torpor in the Elderly

is usually the result of a progressive atony of the bowel, with a gradual decrease of the natural mucus and other secretions. The loss of moisture dries the feces and interferes with their free and easy passage. Under such conditions

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business. He had a wealth of book lore and theory on it, but never did a stroke of practical work in that line; and he got the certificate, making over 90 per cent. on his examination papers. Yet, *practical* men who have spent *years in that work* and who could walk *a dozen circles around him in actually doing things* would have trouble making 50 per cent. in that same examination.

It is up to the man. When we see *man after man succeeding* in technical work purely on the basis of *home or by-mail study,* we are compelled to view education very much in its personal relationship *instead of its pedagogic one.* In medicine *especially,* it is *doing* things that count, and if our Class A schools were relieved of the folly of preparing students for state boards instead of for practice we would have *better graduates.*

Can't Be Done

The modern idea is that a finished doctor can be made in school and hospital. Gentlemen, it can't be done. The old preceptor system was possessed of advantages from which we could still profit. There is no occasion whatever for lowering medical standards for the ambitious man to attain to; but it is not necessary to exact that no one may practice until after he attains to the *maximum* of them. While with our preceptor, before entering medical school at all, we put up medicines, did surgical dressings, attended to certain routine treatments, and even took entire charge of minor cases at the bedside.

There is a *great fault in our way of doing things,* for the young graduate of a Class A school, with a hospital year after graduation, is more apt to *cease study and stagnate* thereafter than is the man who knows he is not "finished" and *keeps up reading and study.* There is no law preventing any "one-horse doctor" from becoming a *master clinician in due time;* but there *ought* to be a law compelling the cocky Class A man to keep up to his "one-horse" competitor, who is apt to go *ahead of him within five years,* speaking *clinically.*

As a matter of fact, many of the "good old family doctors" had frightful mortality records; they were picturesque but far from efficient. It would be a crime on society *to go back* to their way of doing things. Farmers would not go back to the way their fathers managed their farms, and they do not want doctors who are "back numbers." Farmers are driving to the city today because they appreciate modern medicine and go there to get it—and they pay for it, too.

Human Beings

Let us not blame the so-called "backward communities" more than is necessary; they are judged far too superficially. There are large sections of our cities *infinitely more backward* than are the rural sections. Yet the ignorant foreigner in the city wants to be attended by the "Professor" and he appreciates modern medicine. Any man who thinks the good old American stock in the country is longing for the return of "Good Ol' Doc" is *mistaken.* On the other hand, both town and country is getting *heartily tired* of being sent from specialist to specialist, diagnosed and pawed over galore, and no *real treatment administered.*

Patients should be considered as *something more than scientific* problems. After all, the patient is a *human being,* even as *you and I.* No matter what the developments of medical science, the work of the medical profession still is, and *always* will be *to treat humans,* whether to prevent disease or to cure or to manage it. To so immerse students in scientific technicalities and to develop such an *ultra*-scientific zeal that they *lose interest* in the *human beings* for whom the science has been *designed,* is a case of the *tail wagging the dog* with a vengeance. A *new* emphasis (intelligently adapted to modern developments) of old truths is needed, and *badly needed.* And the longer neglected, the *worse the need is going to become.*

As to preachers of high educational standards that the journal quoted by *The Digest* mourns over, the trouble with most of them is that they *can't preach,* despite their educations. They were taught how to study and lecture, but not to *preach.* And the *finicky* young doctor who is *too high bred* to practice in the country *can't doctor.* The people know it, and he finds it out sooner or later if he gets up against the real job of being a country doctor.

Back to Fundamentals

The way to mend this condition is to compel every professor in a medical school, every member of a state board of examiners, every *theoretical pedagogue* in the *foundations,* and every agitator for *marble and mahogany hospitals,* to be thrown heels over head into a real country practice for six months. What a turnover there would be when they got back to the cities! It would be hard on a lot of sick people in the country, but a splendid thing for the professors and board members. This is not frivolous; it points a big moral.

Let's get back to *sanity,* not by reducing medical standards, but by making *doctors* up to *clinical* standards, not *mere academic* ones.

Pyemia of Otitic Origin

Horace Newhart (*Minn. Med.,* Apr. '22), conclusions are:

1. Pyemia having its origin in suppuration of the middle ear is more frequent than we have been accustomed to believe.

2. The best results in combating it can be attained only through early diagnosis, and prompt and thorough surgical intervention. The former demands unusual vigilance and painstaking care on the part of the family physician, who generally is the first to attend cases of ear diseases and their complications.

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Conclusion — Trifacial Neuralgia — Lurie

Continued from pages 729-730

of the nerve which occupied the root canal attempts regeneration. This growth takes place into a soft area and without a sheath. Nerve tissue growth continues in an attempt at regeneration and a neuroma similar to that of an amputation nerve stump develops. This newly formed neuroma, by way of the tooth root, suffers the same variety of injuries as does the amputation stump neuroma. It suffers in addition a greater and more sudden thermal change than does a stump neuroma. This, from the fact of the sparcity of tissue over the parts and the independent innervation of the peridental membrane and mucous membranes of the mouth from those of the root canal, which connects with adjacent teeth.

Relieving the Pain

It is in cases of this variety, that is, those of a neuroma formed in a necrotic area that the extraction of the tooth does not relieve the pain nor the painful exacerbations. In these cases it is necessary to proceed like in the instances of the amputation stump neuroma. There must be a resection performed in which the alveolar tissue is laid bare and the area evacuated, so that as much of the nerve tissue as might have become affected can be removed. In the resection and curettement which follows, the removal of everything down to a healthy bone base must be performed. The area must then be obliterated by filling in of soft parts before the nerve tissue has had time to redevelop into it. The covering over of the tooth socket and evacuated necrosed area with the soft tissue-flap, sutured into position, does this.

Some cases of neuralgia have their origin in an unerupted and impacted tooth with, perhaps, a neighboring decayed tooth. Depending upon the advancement of the condition of the decay and its successful treatment, does the determination of whether or not the impacted tooth and the decayed one should be sacrificed together. In either case the great factor in the removal of these teeth lies in the obliteration of the space after removal and in the removal of all the nerve tissue about the apex of the unerupted tooth. As described in the beginning most unerupted teeth have a large periapical peridental pad and a large root-canal opening. The retention of this stump after extraction of the tooth permits of the early development of pain.

In broken roots after the extraction of vital teeth, nerve tissue finds a normal canal along which to regenerate. It often does, and with it develops the painful neuralgia. These roots show no changes in the X-ray picture, for no destruction of alveolar tissue has taken place. In fact, the condition of neuralgia is seldom found associated with any marked alveolar destruction. There is no typical nor constant X-ray finding in neuralgia. The history of the development of pain or its continuation after the extraction of an infected or impacted tooth without alveolar resection is to be looked on with suspicion, and indicative of nerve tissue growth into the old necrosed area.

Conclusion

To conclude, first, there is a similarity in the pain experienced by patients with amputation neuromata and tri-facial neuralgias; second, the development of an amputation neuroma is described as forming in soft tissue into which a cut-off nerve fibre can grow without a canal sheath; third, that a tooth extraction socket, particularly in conjunction with some periapical destructive process, is a similar condition; fourth, that the unformed apical end of an impacted tooth when improperly removed gives rise to the formation of a neuroma similar to amputation neuromata; fifth, that the remaining portion of vital roots may be the avenue of the growth of new nerve tissue which might be the cause of pain without the development of any visible destruction or determinable factor by X-ray; sixth, the removal of teeth particularly infected or impacted teeth by extraction lays the patient open to the development of a neuralgia or ascending neuritis, and, seventh, that excitation of neuroma in the dental areas is easier, and possible with a greater number of irritants than in an amputation stump neuroma.

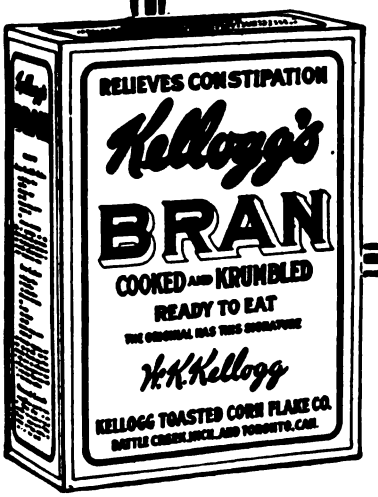
Roentgen-Ray Therapy of Uterine Fibroids

Eden and Provis are of the opinion that roentgen-ray treatment should be regarded as the method of choice in women over thirty-eight for all uncomplicated cases of severe hemorrhage in which no neoplasm is present. The presence of inflammatory disease of the tubes and ovaries is a contraindication. Fibroids of the size not exceeding the height of the umbilicus may be treated with roentgen rays if the patient is over thirty-eight years old, if the hemorrhage is of the regular monthly type, and if there is no evidence of inflammatory disease of the tubes and ovaries or of advanced degenerative changes in the tumor. If intercurrent conditions which tend to increase operative risks are present, roentgen-ray treatment should be regarded as the method of choice. No case should be submitted to roentgen-ray treatment without a careful gynecologic examination to exclude malignant disease, inflammatory complications and degenerative changes in fibroids. The risks of failure with roentgen-ray treatment in suitably selected cases are so small as to be negligible; the roentgen-ray menopause may be attended by more severe flushings than the normal menopause.—*Lancet.*

Wallace Wilson says not all dilated aortas are the seat of a syphilitic invasion, nor is every aneurysm due to the Spirocheta Pallidi, but it is undoubtedly true that the greatest single factor in producing an infective aortitis is syphilis. Furthermore, Turnbull found that specific aortitis was by far the most constant lesion found in syphilitics at autopsy, and Hubert concludes that aortitis comprises 70 per cent. of all visceral lues.

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Book Reviews

Acute Epidemic Encephalitis (Lethargic Encephalitis)

An Investigation by the Association for Research in Nervous and Mental Diseases—Report of the Papers and Discussions at the Meeting of the Association, New York City, December 28 and 29, 1920. Prepared under the direction of Walter Timme, M.D.; Pearce Bailey, M.D.; Lewellys F. Barker, M.D.; Sanger Brown, 2d, M.D.; Charles L. Dana, M.D; J. Ramsey Hunt, M.D.; Foster Kennedy, M.D.; George H. Kirby, M.D.; Hugh T. Patrick, M.D.; Bernard Sachs, M.D.; William G. Spiller, M.D.; Israel Strauss, M.D.; E. W. Taylor, M.D.; Frederick Tilney, M.D.; T. H. Weisenburg, M.D. Paul B. Hoeber, New York, 1921. $2.50.

An excellent treatise on lethargic encephalitis, comprising the best effort, experience and thought of a group of men throughout the country most qualified to speak on the subject.

The Heart—Old and New Views

By H. L. Flint, M.D., Late Captain R.A.M.C., Cardiological Centre for the Northern Command; Physician to the Mansfield Hospital. With illustrations. Paul B. Hoeber, 67, 69, 71 East 59th Street, New York, 1921. $4.00.

Considerable advances, especially during the late War, have been made in the study of the heart, and a number of good books have been since written on this important subject. Nevertheless this non-voluminous treatise of Dr. Flint will find a worthy place among works on the heart. Dr. Flint's standing in the medical world, his experience and efforts qualify him as an expert and teacher in his chosen field. The book further is complete, starting with the heart in antiquity, taking it through the Galenic and Vesalian periods and bringing it to our own days. "The author has succeeded in bringing together the salient points concerning both the doctrines of our ancestors and the researches of the most recent investigators . . . so selected and combined as to give a sharp picture of the whole."

Self-Mastery Through Conscious Autosuggestion

A book of absorbing interest to the medical profession is "Self-Mastery Through Conscious Autosuggestion," by Emile Coué, in which the Emile Coué system of autosuggestion startled the medical profession of London, is fully explained. This work, in English, is written by the famous French psychologist whose clinics at Nancy are the talk of Europe and who recently created a sen-

(*Continued one leaf over*)

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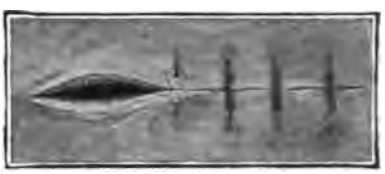
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The Allen (Starvation) Treatment of Diabetes—With a Series of Graduated Diets

By Lewis Webb Hill, M.D., Junior Assistant Visiting Physician, Children's Hospital, Boston; Alumni Assistant in Pediatrics, Harvard Medical School; and Rena S. Eskman, Dietitian, Massachusetts General Hospital, Boston, 1911-1916. With an introduction by Richard C. Cabot, M.D. Fourth Edition. W. M. Leonard, Publisher, Boston, 1921.

This is a handy little book and will, no doubt, be highly serviceable to both patient and physician.

Diseases of the Digestive Organs—With Special Reference to Their Diagnosis and Treatment

By Charles D. Aaron, Sc.D., M.D., F.A.C.P., Professor of Gastroenterology and Dietetics in the Detroit College of Medicine and Surgery; Consulting Gastroenterologist to Harper Hospital. Third Edition, thoroughly revised. Illustrated with 164 engravings, 48 roentgenograms and 13 colored plates. Lea & Febiger, Philadelphia and New York, 1921. $10.00.

We are much impressed by the thoroughness and completeness of this third revised and improved edition of this book. Not only is it thorough, but it is logical and orderly. It begins with the mouth, follows the pharynx, esophagus, stomach, liver, gall bladder, bile ducts, pancreas, small intestines, appendix, cecum, colon, flexure, rectum and anus. And as it proceeds it takes up the physiology, pathology, analysis, diagnosis and therapeusis of the respective parts considered. In treating the multiplicity of the many-phased subjects nothing by way of the practical, the established and the helpful has been left out. It is a truly worthy text with which one will not be disappointed.

What to Do in Case of Poisoning

By William Murrell, M.D., F.R.C.P., Formerly Senior Physician to the Westminster Hospital. Twelfth Edition. Revised by P. Hamill, M.D., D.Sc., F.R.C.P., Lecturer on Pharmacology and Therapeutics, St. Bartholomew's Hospital; Examiner in the University of London; Physician to the Metropolitan Hospital. Paul B. Hoeber, 67-69 East 59th Street, New York, 1921. $1.25.

Cases of poisoning are fortunately not frequent, but when they do occur the physician must act promptly. This booklet affords a means of briefly but precisely reviewing the essential points on cases of poisoning.

The Submucous Resection of the Nasal Septum

By W. Meddaugh Dunning, M.D., Consulting Otologist, Fordham Hospital, New York City; Consulting Otologist, Manhattan State Hospital, New York; Consulting Pharyngologist, Ossining City Hospital, Ossining, N. Y.; Consulting Laryngologist, The Alexander Linn Hospital, Sussex, N. J.; Assistant Surgeon, Manhattan Eye and Ear Hospital, New York; Surgeon, Bronx Eye and Ear Infirmary, New York. Surgery Publishing Company, New York, November, 1921.

A brief treatise on the submucous resection of the nasal septum, well written, well compiled and vividly illustrated.

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(Continued one leaf over)

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Write for This Symposium

In every recent discussion of malaria the subject of the relapse phase has become of more importance. The Rockefeller Foundation report to the International Health Board is practically devoted to this side of the malaria problem.

Every effort to improve the treatment by modification of quinine administration has failed to diminish the importance of considering the relapse in malaria.

This subject has been ably presented in a Symposium on Malaria, including the Rockefeller Foundation report and views of many authors in a thirty-two page book. Every physician interested should write for a copy of this Symposium on Malaria.

It is distributed, free of charge, by New York Intravenous Laboratory, 100 W. 21st St., New York City.

Milk Proteins

Certain proteins, as those derived from milk, have been observed to cause leucocytosis and other changes in the blood when injected intramuscularly. The defensive forces of the body are stimulated thereby and with telling effect, it is said, against a number of circumscribed lesions. Dr. Edw. Ahlswede (*Arch. Syph. and Derm.*, May, 1922) names sycosis, some forms of eczema, furunculosis, buboes, erysipelas, arthritis, epididymitis, among the lesions that can be successfully treated with milk protein injections. In Europe, quite remarkable clinical success has been reported by Bruch, Muller, Forster and other physicians of note.

It is thought that they act by way of the myeloic (bone marrow) system.

Injections are best made into the buttocks, their frequency varying with the case. Lactigen is the preparation to use. Literature may be obtained by writing to the Abbott Laboratories, Dept. 49, 4739 Ravenswood Ave., Chicago.

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(*Continued one leaf over*)

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[*Continued over from preceding page*]

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Vol. 27 November, 1922 No. 11

The Difficult Financial Problems of

Group Clinics

Their Mortality Is Heavy

OF FORTY-FIVE GROUP CLINICS INVESTIGATED BY MERCUR FORTY-THREE SUSPENDED BEFORE TWO YEARS OLD

TO CLARIFY the subject in the very beginning, this article deals only with group clinics organized and conducted along ethical lines by high-grade and thoroughly trained physicians who are not commercialists and who aim to give up-to-date service in every respect. Yet, any such project will fail unless sound business principles and capable commercial management are assured from the start.

There are two ways of starting a new business or enterprise and they are these: First, start very conservatively and in a small way, with a very small overhead that is not increased except by being forced up by the actual demands of increased volume of profitable business; second, start with a full organization and a large overhead, expecting the volume of business to catch up with the overhead. This latter plan can never be successful except with large capital invested in the venture.

A group clinic does privately what public hospitals do; or, at least, it does a *part* of the range of work done by a public hospital. The public hospital has often the advantage of public appropriation of money or of private contributions to its funds; it has, also, the spontaneous patronage of the community in which it operates and does not, as a rule, have to work up business; it procures a large part of its professional service free of direct charge; and—most important of all—*it does not have to make a profit in order to succeed.*

The group clinic operating in a field already provided with modern hospital facilities has the above handicaps that it cannot escape, for it has competition that has part or all of its overhead donated freely, that gets professional service for little or nothing and does not have to declare dividends.

City and Semi-rural Groups

In the large city already provided with adequate hospital service, the group clinic starting in a small way attracts so little attention and has so small a following that it has little chance to succeed. There is, so to speak, no public demand for it as a business enterprise. Hundreds of specialists are already in the field, referring cases back and forth, perhaps all within one large office building or a few buildings within a block or two of each other. This amounts to a group, all friendly to each other and without requiring a special overhead, with its complications and problems of administration, and yet including a score or more of practitioners of real ability. There may be, in a very large city, several congested sections, in each of which are capable specialists, thus co-operating as groups, if you wish to call them that.

In such a large city a privately organized group clinic is apt, any day, to meet the competition of a semi-public group, such as the diagnostic clinic of Cornell University. The result is that the privately conducted group clinic is obliged to cater to *a limited and comparatively wealthy class of patrons* who demand *elaborate and very expensive appointments of every kind.* Such a group would be faced with the necessity of controlling a very expensive building and carrying a tremendous overhead. Naturally, its charges must be *very high* for any service it renders.

In the smaller but prosperous communities destitute of hospital facilities, but which have need for such service, and if the town does not have sufficient local enterprise to organize a community hospital, then a group clinic may fill a great need.

Years ago, out in Minnesota, a lot of people were hurt in a bad railroad wreck that occurred hundreds of miles from a hospital. Dr. Mayo was sent for to attend the injured, and in looking about for a place to open an emergency hospital, so the story goes, he applied to the Catholic Sisters who had a small establishment at Rochester. As the Sisters always do, they responded willingly to the necessities of the injured. The work was a success and after the injured had recovered and departed, Dr. Mayo suggested that they start a hospital. Now "Will" and "Charlie" were coming along then and their father made place for them in the project. Please note that the institution used was a going establishment and that this, the beginning of the first group clinic, was a family affair, and it is yet, despite the fact that a number of other physicians are on the staff.

Now here is the crux of the whole matter: there must be a "boss" in any group clinic, or it blows up sooner or later, and if every doctor in the group is a bosslet, it blows up sooner and not later. This is a sad fact, but as forty-three out of forty-five group clinics investigated by Mercur went out of business before they were two years old, the mortality is heavy, and one of the main causes of a post-mortem was determined as the inability of a number of ordinary medical men to work together harmoniously. There has to be a "boss" in any enterprise and a group clinic is no exception.

The two last paragraphs show the main reason why a group clinic in a small place should be started by *one man,* with his own money; and if he lets in others later on, as he will have to, he will be the recognized head. If he gets it up to the point of needing associates he will have demonstrated by his success that he possesses the executive capacity absolutely necessary for the chief of a group clinic. Doctor, don't get in on a group that does not have a capable "boss." You will make more money and do better professional work by catering to such a leader than by trying to be one of *six* leaders. Plenty of doctors can cut, but doctors with executive capacity are rare indeed, and the majority of them are poor cutters.

Real Money Needed

If one starts conservatively with a small overhead, with one paid nurse to do the laboratory work, etc., a working capital of $5000 may suffice, provided you have a building, preferably your own home. But a working capital is absolutely essential. After you have made a success of the venture and are the recognized head, it will be easy to get in other men, each bringing in capital of their own, but then your troubles will begin if you have *even one* chronic kicker in the group.

If the group clinic is to start out full fledged, with a heavy overhead, don't think of starting with less than $10,000 working capital, quite aside from the building and equipment, for each man in the group. The first year's business is more than apt to be done at a loss; the second year may break even, with perhaps a total of $30,000 working capital left. The third year, on such a showing, will probably show a profit. This shows why a good working capital is necessary. Lack of working capital is another prominent cause of mortality among group clinics.

Knowledge of Hospital Methods

We are not speaking here of professional, but of administrative hospital methods. No one, unless he has been identified with hospital administration, has any proper conception of the many things needed and the host of ways that lose money and retard efficiency; he must understand hospital team-work, the methods of keeping hospital records and accounts, hospital economics and economies, etc. The physician who spent two years in the Army makes a good man in a group, provided he is not the kind who swears at "paper work." This paper work is an absolute necessity in group clinics. Then, too, there must be check-up methods, especially in individual clinical and laboratory findings, individual costs, departmental costs and income, and so on to the end. Neglect these factors and mortality is sure, even if it is deferred.

Finance Again

If you insist on mixing up your own finance with the group finance, look out. You may run your own private practice: that is one thing. But the finance of the group is quite another thing. You are in a partnership, with a distinct bargain made that positively must be lived up to. Corporate bodies can't work on sentiment or friendship; hard and fast business methods *must* rule; it is a bloodless and cold proposition in management and exact accounting, with responsibility exactly placed, and part of that responsibility is yours—only part. The other fellow has his rights, and the rights and equities of the whole group are paramount and must remain so, else there is a sure death certificate to make out for the whole enterprise. So, then, a *real* financier is an absolute necessity. "A bunch of good fellows" may gamble over a card game, sometimes one winning and sometimes the other fellow; but at the end of a dozen games *the money is all there,* even if it is unequally distributed. But if this same "bunch of good fellows" go into the group clinic business on a gambling basis, it is only a question of time until no one of the group has a dollar left. The "good fellow" plan does not go; it is a matter for management, finance and always a good bank balance, else there is a certain smash-up. The pro-

fessional side is another story, not dwelt upon here even if it is important, and it certainly is important; but even more important is the problem of dollars and cents and their handling in a business manner. Professional deficiencies can be met, even if the group has to discipline a man occasionally, or even get rid of him; but if the whole group is built on the sands of insufficient capital, poor administration and lack of method, slovenly financial methods and the "good-fellow" idea, no amount of professional caliber will prevent disaster that involves all.

Other Factors

Doctor, you read about the successful group clinics, but you do not hear much about the failures. You do not read of the many nights of worry to get the machinery going, of the jealousies and heart-burnings that must be swallowed bravely, of the records that must be kept, of the help that must be paid, and all that sort of thing. Then, too, there must be constant adjustment of a host of little and annoying things, and, above all, the everlasting watching of every factor to *make it pay* with no legislature appropriating money, no church supporting the clinic, no rich man sending his check to help out. It is all up to you and your associates, just like it would be up to you if you were partners in conducting a hotel or some other business enterprise.

All of this sort of thing runs counter to the temperament and proclivities of most physicians. Unless the physician gets firm hold of himself by the scruff of the neck and revises his whole traditional attitude, his first six months in a group are the hardest half year he ever spent in his life.

Have You the Nerve?

The profession seems to be worried over the group clinic and what it will do to medicine. Don't worry; it has not done much yet, as the successful, privately conducted group clinic is thus far hard to find. From the difficulties and problems presented here you will understand just why successful ones are scarce.

After all this agitation over the group clinic has passed, the probability is that most physicians will conclude that "the game is not worth the candle" and the professional man will conclude that, in the long run it is better to let hospital people run hospitals and doctors simply practice medicine. If communities must have hospitals, why should the hard-working doctor organize them, put up the money and bear all the brunt? After all, why should he? In the small town the community hospital may solve the problem better than will the group clinic.

—T. S. B.

J. T. Mason says, "Ligation will often precipitate a severe attack of hyperthyroidism. There is always a reaction; this is especially true following ligation. The collateral circulation is unquestionably restored within a few days."

How Shall We Limit or Overcome Cancer?

NO GREAT DISCOVERIES have been made in recent years regarding the etiology, prevention and cure of tuberculosis, yet the disease is definitely on the wane, due, no doubt, to better housing, better food, more outdoor life and the general advance in personal hygiene and sanitation. The world has been looking for some great discovery that will solve the etiology of cancer and lead to a definite and specific line of treatment, but it has not come. This does not mean that we should be discouraged, for there is a better understanding of the disease, it is being given earlier treatment, and the general improvement of technic, surgical and other, is giving us hope that the incidence and mortality rate of cancer may show improvement.

We are offering our readers a notable and sensible discussion on the subject in the department of original contributions, and it shows that each case must be treated on its own merits, and also it makes very clear that no *one* method of treatment is generally applicable, all having a place in the modern group method of treatment set forth so ably.

Cancer Is Not One Single Entity

The histo-pathology of the host of neoplasms, human and other, reveals no little diversity, and is not to be expected that any one etiology is responsible for this great group. Rather, it is to be expected, several causes are operative. So, then, it is not probable that any great discovery will have more than limited application. Our problem is to gather here a little and there a little, classifying our knowledge, comparing case with case, group with group, and so arriving at sane clinical conclusions based on collated observations and exact and duly controlled hospital and other studies.

There is less incidence of neoplasms among the lower animals than pertains to the human species, and this despite the fact that human tissues have more resistance than do those of many of the lower animals. It would therefore appear that there is something in the life and environment of man that promotes this higher incidence and leads to a wider range of neoplasms. It is our task to ascertain just what are the underlying factors in modern life that are leading to the terrifying increase in cancer mortality among us. There has been much speculation and many scattered observations, all possessing a certain value; what we need is a co-ordinated study of all possible influences and vicious conditions; it is becoming a public health concern, and one in which every practitioner of medicine can have a part.

General Features of the Mycotic Infection

The term mycotic is applied to a variety of infections due to yeasts, molds, or fungi. Their importance lies in the fact that when they affect the lungs, tuberculosis is so closely simulated that the distinction can only be made by most thorough examination. Among the mycotic infections, those best known are streptothricosis and actinomycosis (allied to the fungi); blastomycosis, coccidioidal granuloma, sporothricosis and moniliasis (yeasts); and aspergillosis (mold). In none of them have the reported cases involving the lungs exceeded 100.

Blastomycosis, sporothricosis and coccidioidal granuloma often manifest themselves in the form of skin lesions which may or may not be associated with involvement of the lungs. Actinomycosis usually occurs about the neck or face in the form of chronic discharging sinuses; occasionally with involvement of the lungs; a sinus may occur in the chest wall. These facts are worth remembering in cases with pulmonary symptoms and signs in which the tubercle bacillus cannot be demonstrated in the sputum.

The report of five cases of aspergillosis, one of the rarest mycotic infections in this country, by Lapenta (*New York Medical Journal*, December 7, 1921) serves to emphasize the fact that these infections are in all probability not so rare as the number of reported cases indicate.

Special Features

The usual experience of those who have reported examples of these infections is that they were at first believed to be tuberculosis. The patients complain of cough, expectoration, and blood-streaked sputum or hemoptyses. They usually lose weight and fever of an irregular type is present. The physical signs, when the lesion is located at the apex of the lung, are not to be distinguished from those occurring in tuberculosis. The X-ray findings are also those encountered in the latter infection.

The mycotic infections may involve any portion of the lung and are often limited to one or the other of the lower lobes. The condition should not be mistaken for tuberculosis if the lower lobes alone are involved, as it is almost universal for tuberculosis to begin at the apex and extend downwards.

Diagnosis

In the case of a patient who has all of the symptoms and physical signs commonly encountered in pulmonary tuberculosis, but in whom tubercle bacilli are persistently absent in the sputum, some other cause of the trouble should be thought of. Failure to examine the sputum, believing the case to be undoubtedly one of tuberculosis or a failure to heed the occurrence of a number of negative sputum examinations probably explains why more of these infections are not recognized.

The presence of skin lesions or chronic sinuses in the neck or chest wall or a residence in some one of the so-called endemic centers should be suggestive. As few practitioners possess the requisite skill to detect the various mycoses, the sputum in suspicious cases should be sent to a competent bacteriologist.

Treatment

In all of these conditions iodide of potassium is recommended. A number of cures have been reported. On the other hand, many observers have failed to obtain favorable results from this drug. As it offers the only hope, however, iodide of potassium should always be given, once the diagnosis is established.—Henry Phipps Institute, Philadelphia.

Coming

Visceral Prolapse Surgically Considered, by A. Wiese Hammer, M.D., F.A.C.S.

Dr. Hammer says that while the stomach is by far the organ most usually prolapsed, wandering liver or spleen, movable kidney or displaced uterus, may each or severally be found in association. This is especially true in females, be it the result of tight lacing, repeated pregnancies, or—again depending upon the latter cause—engendered through muscular strain. Before using surgical measures, treatment by external mechanical supports should be given a thorough trial.

The Early Diagnosis of Tuberculosis in Children, by Jacob Rosenthal, M.D.

To write a voluminous treatise on the early diagnosis of tuberculosis in children is usual and natural. To write a short paper on such an extensive subject and still cover the vital essentials of this common disorder, is an achievement worthy of note. Dr. Rosenthal has accomplished it—and accomplished it remarkably well.

Surgeons, Hospitals and Teachers, Thirtieth Clinic, by A. Mackenzie Forbes, M.D.

This last paper is a fitting climax to the notable series by Dr. Forbes, which has stimulated so much interest among progressive physicians.

Shirring the Round Ligaments in Uterine Retro-Displacements, by Parran Jarboe, M.D., F.A.C.S.

The frequency of retro-uterine displacements, the persistency of the condition, the morbid train of psycho-neurotic consequences, frequently justify surgical measures. An operation that excellently serves the purpose in most cases is herein presented. You will read Dr. Jarboe's short paper with interest.

The Body's Defenses, or How Nature Prevents and Cures Diseases, by J. W. Torbett, B.S., M.D.

Are auto-corrective and auto-protective powers the pillars of the art of healing? Is vis medicatrix naturae responsible for most cures of human ailments? What are the elements, the organs, the structures and functions, concerned in body defenses and offenses? These are the items ably discussed by Dr. Torbett in this informative paper.

Cancer Therapy, by L. Duncan Bulkley, A.M., M.D., presents another side of this imperative question. Dr. Bulkley says: "Inasmuch as thorough, rigorous and prolonged dietetic, hygienic and medicinal measures yield such far better results is it not wise for the profession and laity to give heed to the signs of the times?"

Etiology of the Symptom Complex Called Asthma, by Henry I. Leviton, M.D.

Is asthma a disease or a symptom? Is it caused by a food, pollen or micro-organism? Is an asthmatic a tubercular or a tubercular an asthmatic—is it one or the other; if neither, what is the relation between them? All these questions are thoroughly discussed in this paper, a paper on a disease which has puzzled and is still puzzling the medical profession as to its etiology, pathology and treatment.

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 828

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Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Causes and Prevention of *Infant Mortality*

By Henry Bixby Hemenway, A.M., M.D.,
Medical Assistant, Division of Vital Statistics,
Department of Public Health,
Springfield, Illinois.

Unusually Worthwhile

To practice medicine is a privilege; to possess the qualification of Dr. Hemenway is an honor; to observe, deduct and record half a century's experience is a pleasure few are privileged to enjoy. Therefore, to fail to read, imbibe, and utilize the substance of this paper—this argosy of service, suggestion, and help, on the many phases of infant mortality—is to overlook something unusually worthwhile.—Editors.

NO BETTER ADVICE could be given relative to reading for medical practitioners than those words of Lord Bacon: "Read, not to contradict and confute, nor to believe and take for granted, but to weigh and to consider."

To properly weigh and consider one must know something of the experience of the writer as a basis for his thoughts, and then compare the written statements with the observations of the reader. Unfortunately, it frequently happens that medical writers state, in most positive terms as facts, ideas that are the result of limited experience or of uncritical theorizing. Even such "half baked" ideas, however, may contain the germ of some original and valuable truth.

Fifty Years of Education and Experience

The writer's medical education began fifty years ago, when as a boy he attended two courses of lectures on public hygiene, given by that Nestor of American Medicine, Nathan Smith Davis, Sr., who later became the writer's preceptor. The reason for these courses was an epidemic of typhoid fever in college. In fact, it was those courses of lectures and a love for the natural sciences which later diverted the writer from the legal profession. Licensed in the spring of 1880, the writer spent nearly two score of years in general practice—at first chiefly in a small city in an agricultural community; later in the edge of Chicago. At present he is chiefly engaged in classifying causes of death, in an office handling approximately 80,000 death certificates a year.

When he began the practice there were very few who had the slightest faith in the germ theory of disease. Relatively more importance was then given than now to the physics of diseased conditions, and to atmospheric changes. If in the following lines the first personal pronoun is used, it is to emphasize the fact that the statement is a personal observation or opinion, rather than a fact accepted generally by the profession.

Scope of Infant Mortality

In the earlier years of his practice the writer thought of the subject of infant mortality as embracing the first two years after birth, and as centering chiefly about digestive irregularities. Today infant mortality covers only the deaths during the first year after birth, and its prevention is chiefly concerned with the *care of the mother before the child is born.* Most of the articles written upon prenatal care are based upon the saving of maternal life and health. The saving of infant mortality is quite as important, and may be quite as striking in results.

Though not in its logical sequence, let us first consider some of the causes of death after the first month.

Early Causes of Death — Feeding

It is generally admitted that the proper food for a child during its early months is mother's milk, but if the baby does not thrive, if it cries unduly, the character of the mother's milk must be studied. One of the writer's own children, after once feeding on Jersey milk, when about a month old, absolutely refused mother's milk, though seemingly that milk was of good quality.

It need hardly be said here that mothers with any degree of tubercular or syphilitic infection, or with acute disease, should not nurse their children. When

the mother's milk is deficient in cream, that deficiency may be at least partially corrected by feeding some cow's cream of good quality, or olive oil. My own preference was for Jersey cream.

Rudiments of Artificial Feeding

If artificial feeding was necessary my own strong preference was for Jersey milk, diluted at first with pure water, and gradually, according to results observed, increasing the strength. The curds of cow's milk are larger and firmer than those of mother's milk. In preparing the baby's food I was not accustomed to make the proportions like those in mother's milk. The presence of cream tends to separate the particles of casein, and thus to make the curds smaller and more easily digested. I did not frequently find that the presence of an excess of cream was harmful. Consequently I was accustomed to begin with the upper quarter or third of Jersey milk, diluted one half with water.

Fresh and Good Milk

My earlier years of practice were in a community where it was easy to get the milk fresh from the cow. In a large city this is seldom possible, but *Mahomet* may go to the mountain if the mountain does not come to him. In case of necessity, especially in the summer, the child may be taken to the country to live by the cow.

For reasons given above the writer's preference was for Jersey milk, rather than that from any other breed. The cow must be healthy, and the milking be done with strict cleanliness. The cow should have been passed by the tuberculin test.

A most important point in the care of artificial feeding is that strict cleanliness must be observed. A tube should never be used for the feeding, and the rubber nipple must be frequently sterilized. All the dishes in preparing the food must be not only clean, but they must be surgically clean.

Abating Enteritis

When enteritis appears intestinal antiseptics, such as phenol salicylate, may be used with good results. If the case is at all severe, *all food must be shut off for 24 hours*, and a teaspoonful of pure cold water should be given at frequent intervals. Without medication, but with this substitution of water for food, I have seen a most extreme case recover rapidly. When enteritis is present food does not nourish. It is turned into poison which intensifies the harm.

Eruptive and Respiratory Diseases

General epidemic diseases need not be here discussed, but we find a large number of reports of deaths in young children from bronchopneumonia, lobar pneumonia, capillary bronchitis, and acute bronchitis. If these conditions follow other diseases, such as pertussis or measles, this should be mentioned in the certificate of death, and the case should be classified with the primary cause. Many are primary pneumonia. Environment has much to do with their development. Closed rooms, crowded rooms, lack of outside air, and polluted air are far more dangerous than exposure to cold or even damp air outside, when the child is properly protected. Even in the dead of winter the child should be wrapped up and taken out of doors for a time every day.

A child overdressed around the throat and chest, and with lower limbs covered only by stockings, tends to develop congestion of the respiratory mucous membranes.

Accidents and a Few Mortality Figures

An undue proportion of deaths of infants occur as the result of carelessness. Babies pull pots or pans of boiling water upon themselves, or fall into tubs of scalding water. Everyone knows of this danger, but it should be more frequently warned against.

Very many children die during the first few days after birth. According to the table from the Bureau of the Census report for 1919, excluding stillbirths, 161,621 infants died during the first year. Of these 26,713 died during the first day, and 53,256 died during the first week of extra-uterine life. The report for 1920 gives a total number of deaths during the first year of life as 174,710. Of these, 29,729 died during the first day, and 59,030 died during the first week. In other words, more than one out of every six children dying during the first year after birth die during the first day, and one out of every three die during the first week. This by no means corresponds with my individual experience, but even if it did such a tremendous mortality seems inexcusable. It should be prevented. If the underlying cause is unknown, it shows the necessity for careful study.

General Causes of Death — Prophylaxis

Judging from the certificates of death received, the more common causes assigned are "marasmus," inanition, "failure of the foramen to close," atelectasis, icterus, prematurity, traumatism in birth, haemophilia, haemorrhage of the newborn, congenital defects, infectious and hereditary diseases, bronchopneumonia, and bronchitis.

Parents with diseases transmissible through heredity should not have children. This means especially those with syphilis, gonorrhoea and tuberculosis.

Syphilis is not directly transmitted from father to child. The mother must be infected, and the child derives its infection from the mother. In many cases such infection is not suspected until perhaps the death of children raises a question, and a Wassermann of the mother's blood shows positive. Whenever a mother has lost two or more children, either by stillbirth or within a few days after birth, particularly if there is a history of similar deaths in other members of the father's or mother's family, it is desirable that Wassermann tests be made of the blood of the husband and wife.

Pregnant women should be particularly careful not to expose themselves to the possibility of contracting acute infectious diseases. Absolute cleanliness in the

puerperal bed, and in the care of the young infant will prevent such acute infections of the infant as septicaemia or tetanus. One case of tetanus, for example, was caused by the attendant washing and dressing the infant immediately after having gathered eggs at the barn, and without washing her hands with an antiseptic solution before tending to the baby. It is well known that the germ of tetanus is found more or less normally wherever horses are kept.

It is well known that the foramen ovale normally remains open for a week or ten days after birth. How then can it cause death within that time? An obstetrician of very wide experience, and a recognized authority on such subjects, told the writer that he had never seen but one case of genuine "blue baby." When physicians reporting "patent foramen ovale" as cause of death have been questioned as to the basis of the diagnosis they have uniformly given the symptoms of atelectasis.

Physical Principles

Consider the physical principles involved. Before birth almost all the venous blood passes directly from the right to the left side of the heart through the foramen ovale. Very little passes through the pulmonary blood vessels. The cells of the lungs are collapsed, and have not come in contact with atmospheric air. As soon as the child is born the child normally distends its chest, thus creating a partial vacuum. The pressure of external air forces air into the pulmonary air cells, thus suddenly bringing a *new* element into contact with the pulmonary mucous membrane, and these young cells are especially sensitive to the effects of this new contact. In proportion as this air is *cold* or *abnormally dry,* or contains irritant chemicals (such, for example, as the chlorine of decomposed chloroform), the air acts as an irritant, and tends to produce inflammatory changes, as shown in bronchitis or bronchopneumonia. In one case from the writer's practice the confinement was at night and in a small room, lighted by a lamp. Chloroform was used, and suddenly we became aware of the presence of large quantities of chlorine vapor, the result of the decomposition of the chloroform by the burning lamp. This same irritating result is shown by the air of poorly ventilated or crowded rooms, and is intensified by the presence of pathogenetic bacteria.

Cold air, *per se,* may not be specially injurious. It is rapidly warmed by its contact with the mucous membrane of the nose, which is kept continually warm by the constant current of blood in the capillaries. But *saturated* cold air becomes relatively *dry* when heated to a higher temperature. Saturated dry air at zero temperature is only about one-third saturated at 64° F., and at the normal temperature of the body it becomes exceedingly dry. It therefore attracts moisture from every possible source. Such air coming in contact with the tender linings of the lung cells extracts moisture faster than it can be supplied by osmosis from the capillaries. This effect is lessened with the age of the child, but in the very young babe the mucous membrane becomes abnormally dry, inefficient, and is easily cracked by internal pressure of the blood, thus producing a wound which favors the development of further trouble. This danger is decreased if the air of the confinement room, and especially that of the nursery, is humidized nearly to saturation.

The lessened pressure within the chest, caused by chest expansion, has another effect. It decreases the vascular tension within the lungs, and atmospheric pressure upon the surface of the body then favors an equalization of pressure by diverting the blood from the right side of the heart through the pulmonary vessels, instead of through the foramen ovale. (In a case of accidental electrocution the writer maintained the circulation of the blood and the consequent aeration for about two hours by artificial respiration. When first seen the lips were blue, but they soon became normally pink, and the skin of the face assumed the normal hue of health. Though there was no sign of cardiac action, this change of appearance convinced bystanders that the victim was alive, and the efforts at resuscitation were therefore continued.) The pulmonary vessels thus gradually become more and more dilated, and are thus enabled to take more of the blood and the foramen is permitted to close in about eight days ordinarily.

Atelectasis and Closure of Foramen Ovale

What would happen if, as many physicians seem to think, the foramen closed instantly at birth? In the place of a gradual and gentle distension of the pulmonary vascular system there would be a sudden and forcible stretching of those vessels which would interfere with the distension of the air cells, and would be very likely to produce rupture of the tender vessels, thus filling the cells with blood clots in the place of air. In other words, an open foramen ovale tends to prevent atelectasis, and a sudden closure of the foramen would tend to cause that condition. Practically it may be said that when the dilation of the vessels is easier than the dilation of the air cells atelectasis is produced. Irritation of the membrane of the infant lung, by causing inflammatory changes, favors undue congestion of the pulmonary vascular system. Cold dry air, therefore, may prove to be an important factor in the production of atelectasis.

The treatment of atelectasis, therefore, should be artificial respiration in a warm, humid atmosphere.

The obstetrical authority previously mentioned suggested his belief that a very common cause of atelectasis was the use of pituitary extract to stimulate labor pains, and he expressed his emphatic condemnation of such use of the drug. Neither my personal observation nor my statistical investigations have sub-

stantiated this claim. On the other hand it must be remarked that I never personally used the drug in my obstetrical practice, and I have not felt at liberty to delve thus deeply into the methods of practitioners in questioning as to cause of death. In the certificates of death, and in the replies to questions asked, coming under my observation, the use of this drug has never once been mentioned.

In the course of my practice, and especially in my consultation practice, where hyoscyamus, morphine, or similar drugs have been used at parturition, I have seen many children physically well developed and apparently normal at birth, who soon showed lack of vitality, and they suddenly died within from three to five days without showing any signs of atelectasis. I was so convinced that these children died as the result of drug action that I became strongly opposed to the use of such drugs.

A death certificate gave as cause of death of a child five hours old "congenital heart disease." In response to inquiries made, the physician said that he had no suspicion as to the cause of the condition. The child seemed to be well formed and perfectly normal at birth. It was a full term child. The labor was of about twelve hours' duration and was not instrumental. About five minutes after birth the child became cyanotic. It resisted all efforts at resuscitation, and in about five hours it died. He mentioned, however, the fact that the child was born under *gas anesthesia,* and that anesthesia was for about two hours before the birth of the child. Apparently he did not in any way connect the use of the gas with the death of the child, but it seems to the writer that such causation was very probable.

In many cases of "patent foramen ovale" or atelectasis, the death certificates have mentioned the fact that the children were prematurely born, or that there was difficulty of birth. Following this lead, all such certificates have been questioned and as a result we have found that this is true of a very large proportion of such cases. It is also true of a large proportion of other deaths, especially within the first two weeks, where other causes of death have been given; but whereas in a majority of cases of atelectasis or of "patent foramen" the children were prematurely born, in cases of icterus there is more of difficulty of birth.

Icterus and Dystocia

While in general practice, my attention was not specially directed to the causation of atelectasis. I had noticed the seeming relationship of icterus to difficulty of birth. My most marked case of icterus was in a child with right transverse presentation. Under the care of another physician labor had begun on Tuesday. I was called on Friday afternoon and found a hand presenting. Verson and extraction was immediately performed. This child developed intense icterus and died about the seventh day. I attributed the icterus to the compression of the liver before delivery. If this suggestion of the causation of icterus is correct, it may be seen that undue haste in the delivery of the head, before the os is properly dilated, may result in such compression of the body as to favor the development of icterus. This haste in ending the first stage of labor also favors such compression of the head as to produce cerebral haemorrhage, with the consequent paralysis, and other injury to the central nervous system. This may also explain some cases of lessened vitality.

Premature Birth and Infant Mortality

It will readily be appreciated that a child which has not passed the full period of utero-gestation is therefore less perfectly prepared to endure the strain of extra-uterine life. Such a child is more liable to have pulmonary congestion and to develop digestive disturbances. Premature birth, therefore, seems to be a common cause of infant mortality than is generally appreciated, or than is shown by statistics compiled from unquestioned certificates of death.

In this connection, another point should be mentioned. It is found that in death certificates of young infants, reference is frequently made to the fact that the deceased child was a "small twin," and the additional fact is often given that the other twin is well and strong. Such a record makes an important omission, namely, the sex of each child. Whole twins, that is, two infants developed from the same ovum, are always of the same sex. Part twins, that is, twins developed from two ova, are probably generally of opposite sexes. It is probable, in the case of twins of opposite sexes, that they represent the effects of different periods of utero-gestation. This being so, the small, weakly twin is probably always prematurely born.

What causes this prematurity? A few are caused by accidents, such as falls, or a ride in an automobile over rough roads. Some are the result of emotional excitement, such as fright experienced by the mother. Others are the result of disease of the mother, such as influenza, pneumonia or fever. In a very large percentage of the apparent causes it seems that prematurity is associated with albuminuria in the mother. In some of these cases the birth is spontaneous. In others premature labor has been induced or Caesarian section has been performed. When it is remembered that as yet only a relatively small proportion of pregnant women have systematic examinations, it may readily be seen that the underlying condition shown in puerperal eclampsia may be responsible for more cases of prematurity than appear in the records.

Effects of Viscosity of Blood on Mother and Infant

In eclampsia there is a marked increase in the viscosity of the blood. Every symptom of eclampsia may be easily explained by this condition. Before albumen appears in the urine the result of this increased viscosity of the blood may be seen in the

increased blood pressure, and perhaps in valvular incompetence of the heart. It is the writer's personal conviction that the danger ahead may be discovered earlier by the systematic taking of maternal blood pressure than by any other means.

But what causes this increased viscosity of the blood with the consequent impeding of the capillary circulation, and the resulting local congestions and increase of blood pressure? It is known that viscosity of the blood is increased by certain disturbances of the digestive tract, and the consequent loading of the blood with waste products.

Entering now the domain of theory, for I know of no investigations on the subject, it is suggested that increased viscosity of maternal blood may be a normal result of pregnancy, and that the condition only becomes pathogenic when it is excessive. The normal individual has many paths for the elimination of systemic waste—the lungs, skin, kidneys and intestinal tract with the liver. Waste in the portal circulation may be extracted and eliminated by the liver, without affecting the blood of the general circulation. The foetus in the uterus must pass all of its effete matter to the mother's blood by placental osmosis. The mother's blood, so to speak, is the sewer for the child. The mother's blood, perhaps already loaded by the mother's own poisons, must carry the infant's sewage until it can be eliminated by her excretory organs. This infant's sewage thus contaminates the mother's entire blood supply.

Normal circulation of normal blood is essential for the peculiar nutrition of the foetus through the placenta. Increased viscosity of the mother's blood would naturally interfere with this normal nutrition of the infant. This might readily explain the puny, weak condition of many infants, and it may explain many more cases of stillbirth than is generally appreciated. Further, because it would interfere with the normal exchange of fluids between the mother and child through the placenta, insofar it would tend to make the foetus a foreign body, and stimulate the uterus to expel it.

Even if pregnancy goes to full term, this condition may explain malnutrition, icterus, and other abnormal conditions. Haemophilia and haemorrhage of the newborn are causes of death mentioned more frequently than most practitioners realize. Increased viscosity of the blood tends to produce capillary stasis, and this in turn tends to cause rupture of the small blood vessels. Increased viscosity of mother's blood might easily cause a similar condition in the infant. In a case of intestinal haemorrhage of the newborn the writer has seen this general capillary haemorrhage, beginning before birth, throughout the intestinal mucous membrane of the small bowel, due apparently to obstruction to the circulation through the liver. The mother of this child also had impaired action of the liver. This case occurred before the importance of blood viscosity was recognized, but years after this same mother showed marked improvement in circulation under treatment with citric acid, and looking back the writer is convinced that she had increased viscosity of the blood during all the years.

Treatment of Hyperviscosity of Blood

If tests show increased blood pressure in the mother, if they show increased viscosity of blood, if albumen appears in the urine, what can be done to correct the condition?

The diet of the mother must be studied. Proteids must be reduced. The patient should eat freely of fruits, especially the citrus fruits. She must drink freely of water.

For direct action upon the viscosity I know of no drug comparable with citric acid and its salts. Even with most marked albuminuria the free use of this treatment may clear the urine, and permit the patient to go to full term and have a normal healthy child. This occurred in a case in my own practice, where conditions were not favorable to an immediate forced delivery. There was a strong mitral *bruit* also. By the time I could get her into the hospital she had shown such marked improvement under this treatment that she was kept under observation, and interference was delayed. The labor was normal, the babe was strong, the albuminuria disappeared, and the heart became normal, without evidence of valvular weakness.

The sodium citrate may be given freely. Twenty grains in water, four times a day when the stomach is empty, is a fair average dosage.

The following table, taken from the Bureau of the Census birth statistics for 1920, shows the number of deaths for each cause of children under one year of age and under one month of age in the birth registration area (not the death registration area):

Cause	Under one year	Under one month
All Causes	129,531	62,635
Measles	1,469	70
Scarlet Fever	146	14
Whooping Cough	4,593	302
Diphtheria and Croup	690	76
Influenza	4,044	473
Dysentery	598	52
Erysipelas	632	190
Tetanus	152	140
Tuberculosis of Lungs	576	39
Tuberculous Meningitis	750	23
Other Forms of Tuberculosis	223	18
Syphilis	1,283	559
Meningitis	980	165
Convulsions	1,447	739
Organic Diseases of Heart	473	147
Acute Bronchitis	2,601	559
Pneumonia	4,822	719
Bronchopneumonia	11,958	1,867
Diseases of Stomach	1,740	461
Diarrhea and Enteritis	22,504	2,683
Malformation	9,381	7,227
Premature Birth	29,217	27,912
Congenital Debility	11,653	8,088
Injuries at Birth	5,645	5,577
External Causes	1,570	432
Unknown or Ill-Defined	3,732	2,145
All Other Causes	6,642	1,968

Surgical Relations of Constipation

By James C. Minor, M.D., F.A.C.S.,
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Omnipresent and Omnipestilent

The practically universal incidence of constipation, together with its by-products and end-effects, ranging from the usually encountered auto-intoxication to the hypothetical genesis of carcinoma of the rectum, tax the efforts and skill of the physician to the utmost. This subject, of such tremendous importance, should command the attention of the doctor, who is so vitally concerned in the abating of disease and preservation of life—both so relentlessly interfered with by this omnipresent and omnipestilent overloading of the lower bowel.—Editors.

ABOUT 90 per cent of all cases of constipation are produced by some one or more of the many diseases and obstructions that occur in the rectum and sigmoid flexure and can be relieved permanently only by surgical interference. Constipation is most frequently met with of all human ailments barring none, but should be recognized as a symptom rather than a pathologic condition; however, it is not the writer's intention to go into an exhaustive consideration of this subject, as the field is too great.

I would like to call attention to a few conditions that are very commonly associated with constipation, and in most cases clear up after having the disease or obstruction in the rectum removed, and as a consequence effect the re-establishment of a normal alvine dejection, thereby relieving many very distressing, and in some instances, alarming symptoms. I refer especially to lumbago, sciatic neuralgia, kidney disturbances, chronic appendicitis, and gall bladder obstruction. A few of the direct causes of constipation are haemorrhoids, fissure, fistula, stricture, hypertrophy of sphincters, growths of various character including carcinoma and violation of hygienic law, such as errors in diet and improper habits, quality and kind of food, and most important, insufficient quantities of fluid. To emphasize the importance of the latter, may I call attention to the fact that a large percentage of normal fecal matter should be water, so anyone can readily realize how essential is this ingredient. There are many other causes too numerous to mention. I think I am not exaggerating when I say there is not one person in twenty who drinks sufficient water to be normal or adequate to the demands of the human system. I think the medical profession in general today recognize more than ever before the importance of rectal diseases and their relation to the whole human economy, and that no general physical examination is complete without a careful rectal examination, even though the patient presents no symptoms of any such trouble. In my opinion, there is no class of disease that acts more directly upon the sympathetic nervous system. The treacherousness and deceptiveness of rectal disease is very great; to the average individual it sounds absurd to say a patient can have carcinoma of the upper portion of the rectum or sigmoid flexure and not know it, and present no prominent symptoms to indicate it, and yet it is true, as cancer of the rectum located above the sphincter muscles causes no pain at all in its early stages. Later in its development, however, when the deeper structures become involved, then the pain is very severe, in fact, I know of no condition in which the pain is more excruciating than that of carcinoma of the rectum in its last stages.

Removing the Cause

Purgatives should be avoided as much as possible because of their irritating effects upon the stomach and bowel mucosa. In the majority of cases of constipation, after examination, one can arrive definitely at the cause, and it should be removed, or corrected, whether it be constitutional or mechanical in its character. Under the latter we must always bear in mind the extra-intestinal causes such as the neoplasms of the abdominal and pelvic viscera and the retrodisplacements of the uterus or enteroptosis, hypertrophy of Houston's valves, congenital narrowness, hypertrophy of external sphincters and many cases of complete relaxation of the sphincters (as found sometimes in specific cases) where the patient suffers from constipation due to partial intussusception of the rectal mucosa and lack of tonicity.

Indirect Effects

Now as to reflex or indirect effects from constipa-

* Read before the American Proctologic Society, St. Louis, May 22, 1922.

tion or obstipation; first, we have more or less retained fecal matter regardless of the use of laxatives, and a process of reabsorption is going on continuously, which in turn, effects the general secretions of the body and intestinal digestion, producing more or less toxemia, and causing gas pressure which is often followed by gall bladder and appendix disturbance. It is a rule to which there are few exceptions that every anorectal lesion may be caused or seriously modified by constipation, or obstipation. Venous congestion is one of the great underlying factors in the production of rectal diseases; accumulation of feces in the rectum or sigmoid impedes the return blood current and may cause traumatic infection even to the extent of malignancy. The majority of cases, I think I am safe in saying 90 per cent of all cases of malignancy it has been my privilege to observe, have given no history of heredity, but always a history of some benign condition preceding the malignant one that could have been corrected by surgical interference. My observation has convinced me the constant irritation of the stool passing over a benign condition can produce a malignant one, and especially are the effects exaggerated by a constipated stool, and for that reason constipation should be classed as a predisposing cause of cancer of the rectum. It is difficult, I know, to get the laity to fully comprehend the importance of this, but I think it can best be accomplished through the family physician.

Hemorrhoids

I would like especially to call the family physician's attention to the importance of examining their patients more carefully when they present themselves with rectal complaints, which are usually referred to by the patient as haemorrhoids, and in the majority of cases is a mistaken diagnosis. While the patient may have haemorrhoids, there are many other conditions and complications that are possible to be associated with the case, and that may be very important and require immediate attention. By giving these cases more careful consideration, it will result in early recognition of many pathologic conditions that may exist and then with proper operative procedure and post-operative care, there will be obtained not only happy direct results, but many other, sometimes serious symptoms in various parts of the body will clear up, to say nothing of the possible prevention of carcinoma that sends so many thousands to untimely graves every year.

Conclusion

In conclusion, special stress is to be laid upon the importance of post-operative care in all rectal cases; it does not matter what the character of the trouble may be, because there are the stool and gases to contend with more or less continuously. These cannot be obviated, and by them the surgical field is exposed to infection; hence, the importance of careful aseptic and as near as possible antiseptic post-operative dressings and care.

The Study of Psychoses

A Guide to Proper Child Rearing

By W. W. Young, A.B., M.D.,
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Life's Most Vital Duty

Dr. Young says that we teach the generations to be doctors, lawyers, merchants, etc., but we neglect instruction in that most vital of all life's duties—parenthood. With very few exceptions the prospective parent faces his future responsibility with as few resources as the babe itself. If we are to rid civilization of the cancer of abnormal mentality, we must have mothers and fathers who know how to be parents.—Editors.

AFTER ALL is said and done we stand helpless before the vast majority of the psychoses which have attained full bloom. As long as the individual mind is accessible to external impressions and we can bridge the chasm between the rational and abnormal, so to speak, just so long can we hope to bring about a more or less normal readjustment. But how many cases there are who are as inaccessible to any communications from us as they would be were they inhabitants of another planet. Consequently how often do we have to admit sadly to ourselves that our efforts must be fruitless!

In such a dilemma there is only one means of approach: we must get at the root of the matter and eradicate the seed long before fruition is possible. And to do this we must take the child from the hour of birth, study its potentialities for abnormal reactions, and educate it to meet adequately the problems with which it is to be confronted. We teach the generations to be doctors, lawyers, merchants, etc., but we neglect instruction in that most vital of all life's duties, parenthood. With very few exceptions the prospective parent faces his future responsibility with as few resources as the babe himself. If we are to rid civilization of the cancer of abnormal mentality, we must have mothers and fathers who know how to be parents.

In the compilation of a text-book for future parents there is no more fruitful field of information than in the study of the psychoses of psychogenic origin. A psychosis of this character is simply an attempt on the part of an individual who is unfit to cope with the problems of life, to meet the issue as best he can. In other words, there is some fundamental error in the make-up of his psyche which makes it impossible for him to solve the problem in a normal way. So

a study of these defects will show that they had their origin in the infantile period of the individual's development and consequently there is evidence of its existence from the time of its incipiency in certain acts of the individual.

Fundamental Defects

Having discovered certain fundamental defects which are the seed from which the future psychosis springs, it would seem a comparatively simple matter to supply this defect by proper educational measures; and this is true. Although the task is not so simple as would appear at first blush, nevertheless it is possible. And were the parent to study his child with as much intelligence as he gives to his business, the day would not be far distant when mental abnormalities would all be organic.

The child's mind at birth is a *"tabula rasa,"* a blank tablet, upon which nothing is written and all its knowledge comes from actual happenings and environmental impressions. So the parent can write a story in orderly sequence on this tablet, rounding out all phases in equal proportions, or he can leave it to chance to write the story, perhaps accentuating one phase and leaving another absolutely untold. We need but one example to impress us with the absolute necessity for a rational approach to this problem.

The best example and one which is ever present is the story of the only or favorite child. In order for the psyche to be well rounded and symmetrical it must be polished off by rubbing up against the will and wishes of others. When the child is an infant its psychic activities are confined to desires and wishes, and all of a selfish nature. As he develops and comes into contact with the wishes and rights of others he learns that he cannot gratify all of these desires, in fact very few of them can be attained entirely. And so he learns to repress these desires and transform them into external activities, unselfish acts and emotions, philanthropic and altruistic feelings. And so the child among many children readily learns these adjustments which are so essential to a healthy psychical life and instinctively without effort meets his daily problems.

On the other hand the only child lacks the modeling which contact with other children brings about and the undivided attention and abnormal love that he gets turns him into a confirmed egotist. He does not learn to repress his desires adequately and as a consequence when a desire comes into conflict with an insurmountable obstacle he will attain to it through some abnormal means, which is the best he can do, instead of repressing it and transforming it into unselfish channels. And thus develops a psychosis.

Improper Development

This failure to properly develop shows itself in many, many ways. His whims never have to give way before the wishes of brothers and sisters. He is the sole ruler of the household; his praises are constantly being sung and he is put up on all occasions in order that he may demonstrate his attainments. Is it any wonder that he is vain and egotistical? He lacks a realization that there exists any such thing as thought for others, self-sacrifice, etc. These qualities are unknown quantities to him.

Again the lack of association with beings of his own age and the constant contact with adults make him usually precocious in all things. Consequently when he becomes a little older he cannot adjust himself. Practices of those his own age "bore" him and it is difficult to find things which will amuse and satisfy. Thus he is strictly speaking asocial through maladjustment. This precocity is present also on the sexual side and he is apt to show sexual curiosity and attain to sexual knowledge of a polymorphous nature at an unusually early age. This is a source of many possible abnormalities.

Sex Perversions

His lack of proper associates accentuates the mother or father image, as the case may be, which is imprinted upon his psyche. Consequently in his future sexual life this influence may be exerted with such undue proportions as to result in many different kinds of sexual abnormalities. For instance, in the choosing of a mate one is certain to be chosen who stands for the parent in his mind; that is, who in some way takes the place of the parent in his love life because actual sex emotions toward the parent are interdicted by the teaching of society and ethics. Standing in the mind for the parent, the physical facts of matrimony may be abhorrent to him and consequently there arises a conflict between reality and his subconscious desires which he cannot solve.

What we have said concerning the only child can just as truly be said of the "favorite child," for he in the end, so far as his ego is concerned, is the "only" child. An old vulgar saying quite adequately expresses this: "The only pebble on the beach." And these examples could be multipled *ad infinitum*. For every reaction type as exemplified in a psychosis we can find numbers of inadequately developed psychic phases which might at one time have been properly cared for and have produced a psyche able to cope with its environment.

And so the big fact confronts us that the majority of so-called "functional" psychoses are never cured and that we must meet the problem by eradicating the cause. This we can do by rearing children properly: in the first place by proper training and instruction; and in the second place by watching for abnormal tendencies and readjusting them. The best guide for the recognition of these danger signals is in a study of the end-results, the psychosis. And every individual should be trained to be a parent just as truly as he is trained for a professional means of livelihood.

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

Twenty-ninth Clinic

Muscular Tone and Reflex Pain in Diagnosis

LET US CONSIDER the similarity between the duties of one of our judges of the law courts and the diagnostician. The judge carefully considers all evidence available. He reviews this evidence and, taking into consideration the law applicable to the case and all precedents, he gives his decision. The diagnostician on his part carefully secures a list of the symptoms both objective and subjective. He reviews these symptoms in the light of previous experience and on them bases his decision. In a court of law the evidence is of the greatest importance. The omission or addition of one point in this may change the court's decision. In a similar way in the science of diagnosis, the collecting, weighing and properly adjudicating the significance of the symptoms is of the greatest importance.

Reflex Pain, Sensory Disturbances and Muscular Spasm

Amongst the symptoms which demand careful study are reflex pain, sensory disturbances and muscular spasm.

In our clinics for some years we have been placing an ever-increasing reliance on the information made available by reflex change in muscular tone in pathological conditions of both abdomen and joints. In the diagnosis of pathological conditions of the latter we have been accustomed to teach that muscular spasm is the first symptom to come and the last symptom to go in any form of arthritis. We look upon hypertonicity as a precursor to muscular spasm. We feel that hypertonicity always suggests a pathological condition.

In the surgery of the abdomen our ability to detect reflex changes in muscular tone and sensation is of the greatest importance. Clinically increased or decreased tone or sensory changes may mean change in an organ or part beneath the area of hypertonicity or hyperalgesia, although, on the other hand, it may mean change in a part far distant.

Differentiate Between the Degrees of Muscular Tone

Our ability to differentiate between degrees of muscular tone is valuable also in other conditions.

In the early stages of an attack of poliomyelitis there is a definite change of muscular tone when even a paresis cannot be diagnosed with certainty, although this change is hardly reflex in origin. On the contrary at the onset of poliomyelitis, increase of tone is probably due to direct stimulation of the nerve cells, whereas in later days decrease of tone is probably due to degeneration of both nerve and muscle cells.

A Valuable Aid in Diagnosing Poliomyelitis

The writer, not two years ago, found this change in muscular tone to be a most valuable adjunct to his diagnostic armamentarium when he was called in to see a patient who resided at one of our large seaside resorts where hundreds of children were herded together. The symptoms had suggested to the practitioner in charge that most dreaded disease, infantile paralysis. The child had been feverish for a couple of days. He was now well, but somewhat weak. There was no definite paralysis, only an indefinite paresis. What affection could have caused so great a weakness in so short a time? Examination demonstrated no loss of function but a strange variation in the tone of individual muscles and groups of muscles. Poliomyelitis was diagnosed. The diagnosis was confirmed by the subsequent course of events.

In Pseudo-Hypertrophic Muscular Atrophy

Pseudo-hypertrophic muscular atrophy is another condition in which variations of tone are of extreme interest, although in this condition it is questionable whether such changes can be of reflex origin. It seems that even in the prehypertrophic stage of this affection there tends to be increase of tone. In the atrophic stage there is lack of tone.

In Muscular Dystrophies

Further studies of changes in tone in the muscular dystrophies may increase our ability to make an early diagnosis.

If a patient has suffered from sciatic pains for any time there may be a distinct loss of muscular tone,

although there is no muscular atrophy or suggestion of a neuritis.

Because of the value of these changes, be they reflex changes in the central nervous system or only local changes, we urge our students to so educate what we may call in the broadest sense their powers of observation that they may recognize the earliest deviations from the normal. We realize that perhaps the recognition of changes in tone and sensation may help them to locate the site of a pathological condition the symptoms of which may be vague or referred to regions far remote from the site of the lesion.

The Effect of a Diseased Joint on Adjacent Muscles

It has long been known that the tone of muscles adjacent to a diseased joint is increased. Little reference is made to this, however, in the literature available except by such writers as Sir James Mackenzie,* who in his delightful work on symptoms and their interpretation draws our attention to the importance of both viscero-motor reflexes and viscero-sensory reflexes, and also to a lessor degree the hypertonicity due to the arthritides.

In Montreal we have tried to prove that in any form of arthritis hypertonicity of the muscles adjacent to the diseased joint is the first symptom to come and it is also the last symptom to go. To our surprise, however, we have found that in arthritis of long duration, while disease may still be present, hypertonicity no longer obtains. This at first caused some confusion, but later we adopted the postulate that in long standing cases the joint often becomes destroyed and ankylosis supervenes, thus in such cases we are no longer dealing with a joint which is subject to all the characteristics of an articulation but, rather, with a solid union of two or more bones clothed with muscles which have lost their physiological characteristics. This postulate has been verified by the work of Sherrington, of Edinburgh, as pointed out to me by Professor John Tait, of McGill University.

The tone of *skeleton* muscle is a slight continuous contraction of the muscle reflexly maintained. The recepter organs involved in the reflex are chiefly muscle spindles (in some cases Sherrington showed that as many as 40 per cent. of the nerve fibres in so-called "motor" nerves may be efferent nerves from such spindles).

The Physiology of Reflex Changes

Sherrington is inclined to the belief that tone is a function only of muscle concerned in the maintenance of posture (posture being here used in a wide sense).

If confirmation of the theory that tone is a function only of muscle concerned in the maintenance of posture be desirable, one need but note the degree of tone seen in the muscles covering a joint which has been recently excised where the muscles have ceased to control posture. As you will have learned in our previous clinic (No. 5) we often excise a joint affected with tuberculosis not with the intention of eradicating disease, but simply to give rest, that this, one of the cardinal requirements for the arrest of tuberculosis, may be assured. Here we have eliminated the joint, but we have not yet secured an arrest of the tuberculous process. In our opinion atonicity and not hypertonicity will prevail.

Let us proceed further in our clinical study of muscular tone. How often do we note the, as yet unexplained, phenomenon of greater tone in the right rectus abdominalis than in the left rectus? Is this reflex increase of tone due to some, as yet unexplained, mild inflammation in the right quadrants of the abdomen?

Should we not now study the physiology of these reflex changes? As Sir James Mackenzie remarks, in the normal processes of life, a stream of energy is continually passing by the afferent nerves to the spinal cord and continuously playing upon the efferent nerves which run to muscles, blood vessels and other parts, maintaining the normal. If a morbid process in a viscus or a joint gives rise to an increased stimulus of the nerves passing from the viscus or joint to the spinal cord, this increased stimulation affects neighboring centres and so stimulates sensory, motor and other nerves that issue from this part of the cord. If the increased stimulus affects a motor centre, then a contraction of the skeletal muscle results and thus is produced the viscero-motor or the articulo-motor reflex.

Sir James Mackenzie asserts that it is in the muscles forming the abdominal wall that the viscero-motor and viscero-sensory reflexes can best be studied. Listen to his words: "Some years ago I pointed out that these muscles could be demonstrated to possess the power of contracting in small sections in response to visceral stimulation. Later I found that Sherrington had described a difference in the reaction to nerve stimulation between these flat muscles and the muscles of the limbs. The fibres that constitute the nerve supply of any given muscle leave the spinal cord in separate bundles. If one of these bundles be stimulated the whole length of a limb muscle like the sartorius will contract. On the other hand if one of the bundles that constitute the nerve supply of one of the abdominal muscles be stimulated, only a portion of the fibres of the muscles will contract.

Contracted Abdominal Muscle Simulating a Tumor

"The contraction of a small portion of the abdominal muscle, in response to a visceral stimulus may remain for an indefinite period. The limited hardness thus arising gives to the palpating hand the impression of an underlying tumor, and not only does it give the impression, but it is often mistaken for a tumor. I have, on several occasions, seen experienced surgeons

*Symptoms and Their Interpretation, 1909.

and physicians make this mistake, and at the subsequent operation no tumor was found. This hard contracted portion of a muscle is often hyperalgesic, and its tenderness is readily mistaken for an evidence of the sensitiveness of the supposed 'abdominal tumor'.

"The extent of this contraction of the abdominal muscle is variable. In appendicitis it may be limited to a few strands of muscle, which may be mistaken for the appendix itself. It may be more extensive and resemble a rounded tumor, and this, in appendicitis, is often mistaken for swelling in and around an appendix (perityphitis of olden days). On the other hand, the whole of the right side of the abdomen, and even a portion of the left, may be found hard and board-like.

The Physiology of Contracted Muscles

"There are features in these contracted muscles that have not been appreciated, and which open up some new points in the physiology of contracted muscle. As a rule the contraction is long continued, lasting it may be for days or weeks—or it may be months—as long as the visceral lesion keeps up an adequate stimulus. As a rule it begins as a slight increase in the tonicity of the muscles, and is detected by one side of the abdomen or one portion of a muscle being a little more resistant than other parts. At this stage it is readily provoked to a strong and firm contraction by palpation. If, as often happens, the skin or muscle itself, is hyperalgesic, this reflex contraction is very readily induced, but after the contraction it remains for a time strongly contracted. Thus, in palpating the epigastrium in cases of gastric ulcer, if the part is not explored with gentleness the muscles immediately become violently contracted, and remain strongly contracted. On the other hand, if very gently palpated all that can be detected is a resistance slightly greater than normal and with the slightest increase of pressure an increase in the hardness of the muscle is produced.

"When this contracted muscle is examined under chloroform certain characteristic features are found. It is, as a rule, the last portion of the muscular system to yield to the influence of the anæsthetic, remaining hard and contracted when all the other muscles are limp and flaccid. The chloroform has often to be pushed, and even in deep anæsthesia no relaxation may take place. In many cases the contraction persists, however deep the anæsthesia, and however long it may be pushed. In such instances when the muscle is cut during an operation the fibres remain stiff and unyielding, and one is much hampered in forcing an opening through the cut muscle. Thus, in one case of appendicitis the muscle was rigid and hard, and gave the impression of an underlying tumor. When cut, the fibers would not yield, and I had much difficulty in getting my finger in to explore the abdomen. There was no underlying tumor, and the peritoneum and bowel in the neighborhood, were perfectly healthy. Deep down an inflamed and suppurating appendix was found."

Once more applying our knowledge of these reflexes to clinical diagnosis we quote from Mackenzie. Muscular contraction may come on suddenly with the sudden onset of some visceral trouble. Thus, in a case of renal calculus, the onset of pain was immediately succeeded by the contraction of the abdominal muscles and the patient was also conscious of the contraction of the cremaster muscle by the pulling of the testicle. In angina pectoris the sudden onset of the powerful contraction of the intercostal muscles is recognized by the feeling of compression of the chest, so great at times that the patient states that he feels as if his breast-bone would break.

Many Conditions Produce This Reflex

There are many conditions which produce this reflex. Peritonitis causes it, and as the muscle is usually also tender, these symptoms of hardness and tenderness of the abdominal wall have come to be looked upon as undoubted evidence of peritonitis. But these symptoms may be, and often are, present with absolutely no peritonitis. Thus, I have found tenderness with firm contraction of the lower part of the left rectus abdominalis muscle in a case of stone in the bladder without peritonitis. Hardness and tenderness of the recti over the epigastrium is common in gastric ulcer, and I have found these symptoms without any peritonitis. I have also found hardness over a limited area in the left lumbar region due to a tubercular ulcer in the posterior wall of the descending colon and there was no peritonitis underlying the hard and tender muscles. In like manner wide-spread tenderness of the abdominal wall with hard contraction of the whole abdominal muscles may occur without any peritonitis. As illustrating the extensive muscular contraction due to visceral stimluation I cite the following case: I was summoned to operate upon a fellow practitioner for obstruction of the bowels. The symptoms were, no movement of the bowels for two days nor had any flatus been passed, some vomiting but not fæcal: considerable abdominal distention, with great hardness of the whole abdominal wall and pain on the slightest pressure. Some difficulty was experienced in passing the finger into the bowel on account of the strong contraction of the sphincters. The patient had severe attacks of pain every few moments. The pain began in the left lumbar region, passing forwards and downwards towards the pubis. Pain was felt on light pressure on the left testicle. From the situation of the pain and the tenderness on pressing the left testicle, I had no hesitation in recognizing the condition as one of renal calculus. In my experience the pain in obstruction of the bowel is

never so distinctly one-sided. The inability to have the bowels move was simply due to the violent contraction of the sphincters, such contraction, with the contraction of the abdominal muscles, being due to the renal calculus. The diagnosis was confirmed by the passage of a calculus next day with immediate disappearance of all the symptoms. This patient has had two subsequent attacks with a repetition of all the foregoing symptoms. The contraction of the muscles was undoubtedly due to a violent stimulation passing from the affected organ to the spinal cord. There the irritation spreads, affecting not only the centres of the sensory nerves, but also the centres of the motor nerves. These stimulated, give rise to violent muscular contractions—the viscero-motor reflex."

The Mechanism of Muscular Tone

The mechanism of the production of increased muscular tone is extremely interesting. A stimulus reaching the spinal cord from the skin may produce a reflex contraction of the muscle whose centre in the spinal cord is adjacent to that of the sensory nerve from the skin. A stimulus reaching the spinal cord from an organ may produce pain over the organ or, as explained by Mackenzie, pain referred some distance from the organ. A stimulus from an organ, on the other hand, may produce muscular contraction as demonstrated by hypertonicity or spasm. Again a stimulus reaching the spinal cord may, if of adequate strength, stimulate other nerve cells in the neighborhood, and these respond according to the nature of their function, producing pain and muscular contraction as has been seen. Mackenzie draws attention to a well-known phenomenon. The nerve supply of a different organ may be stimulated and thus the symptoms may be referred to this the unaffected organ and give rise to various possible errors in diagnosis. For instance, frequent micturation may be due to an inflammation about the appendix. Inability to micturate may follow operation by hemorrhoids and increased flow of urine or saliva may be due to an attack of angina pectoris. In lumbago the pain and stiffness may be due to some pelvic trouble as endometritis, or hemorrhoids. In angina pectoris the pain may spread or be referred to the left arm. In many cases of visceral disease pressure over the spines of certain vertebræ elicit pain, sometimes of a very acute character. These tender vertebræ ar usually associated with areas of hyperalgesia in the skin and muscles of certain definite areas, at some distance from the spinal column. Such hyperalgesic areas are supplied by the nerves that issue from the cord at the level of the tender vertebræ. The skin over the vertebræ may not be hyperalgesic, so that the pain is elicited from deeper structures. The pain is referred to the region of the vertebra that are tender. These tender vertebræ must not be confused with the spinal tenderness so common in certain neurotic cases. In these latter the tenderness is not limited to a few vertebræ but the whole spine is tender on pressure.

An Error in Diagnosis May Result

If the visceral origin of the tenderness of these vertebræ be not kept in view, an error in diagnosis may result from the fact that the tender vertebræ may be looked upon as evidence of disease of the spinal column. This is all the more likely to be the case if there is well-marked evidence of cutaneous hyperalgesia. I have seen a patient encased in a plaster of Paris jacket on the recommendation of a distinguished neurologist, because of an extreme tenderness of the sixth and seventh dorsal vertebræ and a band of marked hyperalgesia of the skin around the left half of the upper part of the abdomen. At the post-mortem examination no disease of the spinal column could be detected, but there was a cancer of the cardiac end of the stomach.*

Difficulty in Determining the Source of the Pain Stimuli

"On account of the fact that pain originating in any part of a nerve in its course from the brain to its periphery is referred to the peripheral distribution, there is often a difficulty in determining the source of the pain stimuli. The differential diagnosis must, therefore, depend on a knowledge of how the pain arises, the relationship of the nerve-supply of different regions of the body to the central nerve-supply, and its connection with the visceral nerve-supply. In the absence of any demonstrable cause of stimulation at the periphery it is necessary to consider the possibility of stimulation at more central parts. The symptoms which may arise from an irritation of a nerve-trunk, as from pressure, neuritis, or herpes zoster, resemble in a great many respects those which arise from visceral disease. So great, indeed, is this resemblance that even the most experienced may be led astray. Thus, the pain and hyperalgesia of a stomach affection may simulate the symptoms produced by caries of the spine, and the shoulder-pain of gall-stone disease may be mistaken for a neuritis."

There is often great difficulty in determining the source of pain. The differential diagnosis must, therefore, depend on the knowledge of how the pain arises, the relationship of the nerve supply of different regions of the body to the central supply and its connection with the visceral nerve supply.

In the surgery of the joints it is often found most difficult to differentiate between the normal and the abnormal.

Pain stimuli originating in the joints may be referred to other parts and pain about joints may be due to stimuli arising in a viscus.

*Mackenzie states that pain is sometimes felt in the 1st, 2nd 3rd and even the 4th dorsal vertebra in cardiac affections; over the 5th, 6th, 7th and sometimes the 4th and 8th dorsal vertebra in affections of the stomach; in the 9th, 10th, 11th and sometimes the 8th in affections of the liver; in the last lumbar and upper sacral in affections of the rectum and the uterus.

Joint Pains Are Nearly Always Felt at Some Distance From the Affected Joint

The pains caused by joint affections are nearly all felt at some distance from the joints. The best example is the pain felt on the inner side of the knee in disease of the hip joint. Pain in affections of the shoulder may be felt down the arm as low as the elbow and the pain from the knee joint may be referred over the head of the tibia. In many joint affections the contractions of the muscles which move the joint may be as strong as to lead to the idea that the joint is ankylosed. This is particularly the case with some affections of the shoulder joint. On the other hand, hypertonicity, the arthrito-motor reflex, is a very valuable sign which will cause us to focus all our powers of diagnosis on one joint when there is little else to aid us in our search for disease.

CANCER THERAPY

The Proper Co-ordination Between Surgery, Radium and the X-Rays

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Second and Concluding Section

This is the second and concluding section of this notable contribution to the diagnosis and treatment of cancer by means of a group clinic management of the cases. The first section was published in the October issue.—Editors.

X-Ray Therapy of Cancer

The development of the methods of X-ray therapy may be roughly divided into three periods. In the first period, which continued from the beginning to about ten years ago, no attention was paid to the quality of the radiations nor to the ratio between the quanity of radiations which were directed upon the surface of the body of the patient and the fraction of these which reached into the depth. In the second period, which began about ten years ago, through the improvement in the X-ray machine (higher voltage on the secondary) and in the quality of X-ray tubes, particularly the development of the Coolidge type of tube, and the use of filters, X-rays of smaller wave length and consequently higher penetration were obtained. Furthermore, by the use of several small fields of entry and by cross-firing from opposite directions an empirical attempt was made to obtain in the depth a greater fraction of the quantity entering through the skin without injuring the latter. Nevertheless this fraction still remained very small and its quantitative relation to the total entering the skin could not be determined.

The latest developments in the X-ray therapy, which have taken place in the course of the last five years, consist, first, in the construction of X-ray machines which produce 200,000 volts and more in the secondary, and of X-ray tubes which can withstand the high voltage imput. Furthermore, the ionization methods of measuring the intensity of X-rays were perfected so that it is now possible to determine with a fair amount of accuracy the percentage of the surface amount which penetrates into a certain depth. These measurements brought forth the following striking result which even *a priori* supports the writer's contention stated above as to the difference of the action of radium and the X-rays. The percentage of the quantity of radiation entering the depth of about 10 c.m. even with the most powerful machinery and tubes and with ½ mm. of zinc or 1 mm. of copper as filter, is comparatively small. In order to improve this quotient of the depth dosage to the intensity of the rays on the surface, not several

small fields, but a large portal of skin entry must be used. The reason for it lies in the fact that the quotient of the depth dosage can only be improved by the addition of secondary and scattered radiations which are formed within the tissues by the entering beam of rays. The larger the portal of entry, the greater the quantity of secondary and scattered radiations, and in order to obtain the necessary quantity in the depth a large field must be used.

Kronig and Friedrich,[11] who added more than any other group of investigators to the progress of the subject, have shown experimentally that while in accordance with theoretical calculations only 10% of the surface intensity of the X-rays reaches into the depth of 10 c. m., even with a voltage of 20,000 and 1 mm. of copper filtrations, the actual percentage as measured by the ionization method is as much as 43%. They further show the following relationship between the size of the field of entry and the quotient of the dose in the depth. Given the same conditions, namely, 20,000 volts, 50 c.m. target skin distance, 1 mm. copper as filter, a field 5 c.m. square delivers 31% of surface intensity into 10 c.m. depth, a field 10 c.m. square delivers 38% and a field 15 c.m. square 43%. They have further shown the existence of secondary radiations at a considerable distance to the periphery of the field of entry. All this means that in order to direct the necessary quantity of radiations to a deep seated tumor a large quantity of radiation will also be directed to the adjoining normal tissues, the blood and the blood-forming organs. Furthermore, if an attempt is made to send a very large dose in the depth from several portals of entry, a cumulative effect may take place at some point in the depth, with consequent serious injury of normal tissues.



Fig. 7. The high voltage X-ray apparatus in the writer's laboratories. A shows the adjustable table; B the generation machine; C the Coolidge filament transformer; D the sphere gap; E the box containing the X-ray tube; F the milliameter; G the pyramid; H iontoquantimeter; I insulated tube from the electroscope to the ionization chamber under the pyramid; J exhaust fan to purify the air of the room.

The Newer X-Ray Apparatus

There is no doubt that technically the high-voltage X-ray machines and the ionization method of measuring the intensity of radiation mark a great progress in X-ray therapy and are indispensable in the treatment of cancer. The writer still uses the old type machines for the treatment of Hodgkin's disease, leukaemias, splenomegalies, exophthalmic goiter, surgical tuberculosis, etc. For the treatment of cancer, however, the writer employs now only the high-voltage machines. Fig. 7 shows the installation in the writer's private laboratories. The units of apparatus were built by Waite & Bartlett Company, and Dr. Waite co-operated with the writer and used much ingenuity to create a set of machines which will lose nothing in their efficiency and at the same time be so compact as to fit in any X-ray laboratory. The generating machine presents a double transformer with a double cross arm mechanical rectifier operated by one synchronous motor. The X-ray tube is completely incased in a rigid ray-proof box, the whole room is leaded throughout, and photographic tests have shown that no rays penetrate beyond the room and box, thus protecting the operating staff and the people in the vicinity from the action of the rays. A sphere gap measures and controls the voltage entering the tube. A controlling device connected with the rheostat of the filament transformer keeps the milliamperage perfectly constant. The table can be raised and lowered.

The writer had constructed a set of frames in the form of pyramids which have at one end a lead

[11] B. Krönig und W. Friedrich. Physikalische und biologische Grundlagen der Strahlentherapie. Berlin, 1918.

diaphragm under which is attached the filter ½ mm. or 1 mm. of copper and 1 mm. of aluminum. At the other end of the frame there is attached a plate of bakelite which filters off the secondary radiations produced by the metal filters. The respective square dimensions of the opening in the lead diaphragm and

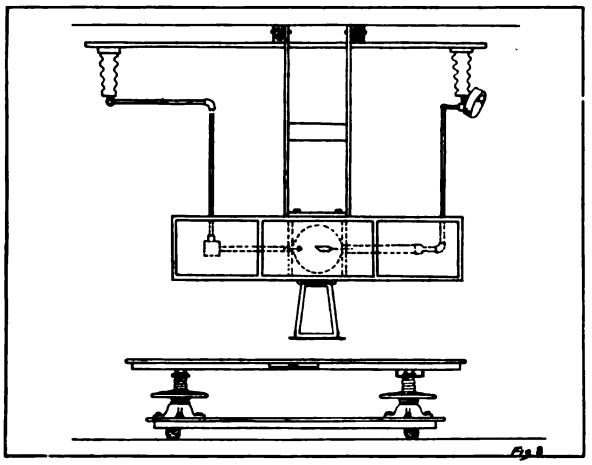


Fig. 8. A schematic cross section drawing of the X-ray tube, tube box, milliammeter, pyramid and treatment table, showing the relative position of the parts.

the piece of bakelite at the base of the pyramids are so arranged that the beam of X-rays passing through the diaphragm has the square size of bakelite, when it reaches it. Furthermore, the height of the pyramids is such that when the bakelite touches the skin of the patient, the distance between the skin and the target of the X-ray tube is exactly 30 or 50 cm. This device simplifies the arranging of the fields of treatment. The proper sized pyramid is selected, placed in the box under the tube and the table raised until the skin of the patient touches the bakelite place of the frame. If the skin does not touch the plate everywhere, then cotton padding is added, which absorbs the rays in the same way as the tissues of the body. Fig. 8 shows a schematic cross section drawing of the arrangement. The writer uses comparatively large fields, 10, 15 or 20 cm. square. The number and size of fields is arranged in accordance with the condition to be treated, the size and location of the tumor and the size of the patient. Fig. 7 also shows the relative position of the ionization measuring apparatus to the X-ray tube. Fig. 9 shows a photograph and schematic cross section drawing of the same apparatus.

The apparatus used by the writer is one devised by Dr. Solomon, of Paris. It is practically identical with Friedrich's iontoquantimeter and consists of an ionization chamber, which is a small cylindrical tube built of horn and lined with graphite. This ionization chamber is placed directly under the X-ray tube, as shown in Fig. 7. The ionization chamber is con-

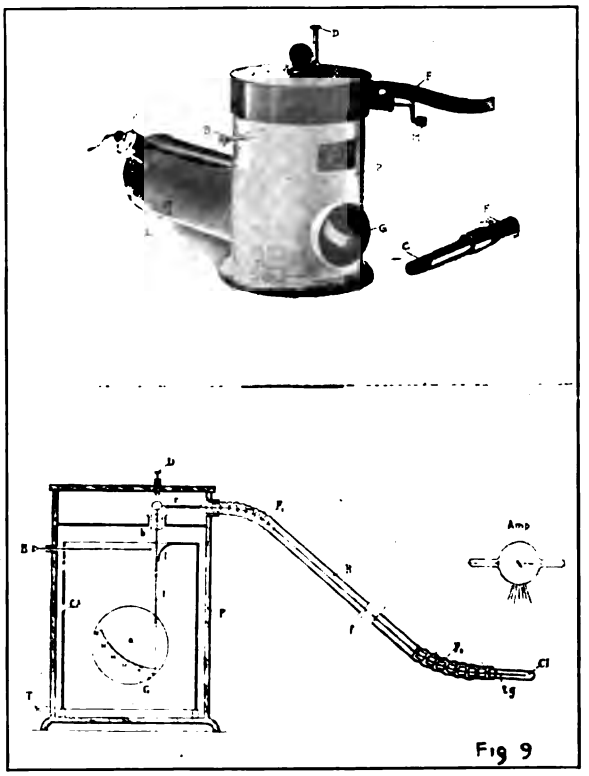


Fig. 9. Photograph and cross section drawing of Dr. Solomon's ionization measuring apparatus. Cl., Ionization Chamber; F's R., The connecting tube; P—The lead lined electroscope; T—The metal rod; A—Silver leaf; G—The scale; M—The charging device.

nected by the aid of graphite lined tubing with an electroscope. The electroscope itself is again a large ionization chamber within which there is placed a metal rod, and affixed to it somewhere nearly midway is a silver leaf. A small friction apparatus charges the electroscope chamber with high-potential electricity (about 300 volts). This electrical charge deflects the silver leaf from the rod. When X-rays or gamma rays of radium enter the ionization chamber the air within that chamber, as well as within the connective tubing and the electroscope chamber, becomes ionized. As a result of this the high-potential current within the electroscope chamber is discharged and the silver leaf falls back to the rod. The rapidity with which that fall takes place is in direct ratio to the intensity of the radiations. There is arranged within the electroscope chamber of the apparatus a scale of numbers running between 10 and 60 and a

reflecting glass. The measuring with this apparatus proceeds in the following way: The electroscope is charged until the leaf is deflected to 60; then gamma rays of radium or X-rays are directed to the small ionization chamber for as long as it takes the leaf to drop to 10 on the scale. The time necessary for it is measured by a stop watch. The apparatus is so standardized that the gamma rays from 1 gm. of radium take one second to move the leaf from 60 to 10. The unknown intensity of the radiations acting on the ionization chamber can consequently be measured when the time it takes the leaf to move from 60 to 10 is known. This ionization apparatus is very similar to the one described above which is used for measuring radium emanation.

Measuring Dosage

When an X-ray machine and X-ray tube are so constructed that the voltage on the secondary, or rather to say, the voltage entering the tube and the milliamperage do not fluctuate then given the same distance from the target to skin and the same filter the intensity of radiations delivered in a unit of time will practically be always constant, and it is therefore not necessary to measure it frequently with the ionization method, but it suffices to use the latter only at intervals for proper control.

Thus, with the new methods and the modern apparatus, an exactly calculated amount of radiations may be delivered into the depth. Through a large field of entry 43% of the skin dose may be delivered to a deeply seated tumor and with several portals of entry even more than a skin dose may reach the tumor. However, too much emphasis cannot be laid on the fact that such a large amount must be accompanied by dangerously intensive raying of adjacent normal tissues. Attempts were made in the gynecological clinics of Freiburg and Erlangen not only to measure the quantity penetrating into a certain depth, but also the exact quantity needed to destroy a malignant tumor. A so-called carcinoma dose is claimed to represent 110% of a skin dose, while a sarcoma dose represents 70% of a skin dose. Such conceptions represent only a very rough estimate of the true situation. The biological behavior of a cell cannot be translated into an arithmetical equation. A melanosarcoma is, for instance, by far more resistant to irradiation than carcinoma, while a lymphosarcoma can be influenced by a very small fraction of the quantity needed for any other type of malignant tumors. Furthermore, no account is taken of the fact that the efficiency of radiotherapy in cancer is in inverse ratio to the mass of the tumor. The greater the amount of the total tumor mass within the organism, the more malignant is the condition clinically and the lower is the power of resistance of the organism. The writer has shown in a previous publication[12] that even metastases in the bones may be clinically arrested when they are not multiple and the primary tumor is removed, while the existence of several metastatic tumors in the skeleton make the condition hopeless. Moreover, the measure of the true quotient of the depth dose can never be made mathematically accurate.

Holfelder[13] claims to have devised an accurate method. He employs, in accordance with the technique of Seitz and Wintz, several not very large fields of entry. A set of colored celluloid plates overlapping each other and laid over a flat schematic

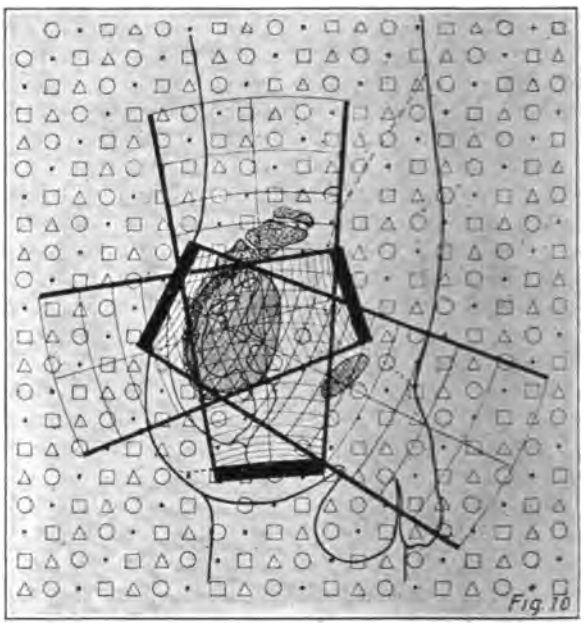


Fig. 10. From Holfelder[13] a scheme of his field selector for carcinoma of the rectum. Three celluloid plates overlapping at the site of the tumor.

drawing of the patient filled with dots, circles and triangles, into which the tumor is drawn, arranges the combination so that within the area of the tumor all the figures on the paper are obliterated by the depth of the color of the overlapping plates, and this represents the required full carcinoma dose. This device he calls a field selector. He then directs the X-ray tube under the same angles to the surface of the body as the celluloid plates. Fig. 10 shows, however, that the field over the abdomen is applied with pressure which of necessity must change constantly during the treatment. Furthermore, the slightest

[12] I. Levin. Annals of Surgery, 1917, 327.
[13] Holfelder. Strahlentherapie, 1921, XII, 161.

movement of the patient changes constantly the relative positions of all the fields and consequently creates the danger of an overdose and severe injury to the normal tissues.

What of X-Ray Therapy Alone?

Seitz and Wintz, of Erlangen, maintain that it is possible to cure carcinomata of the cervix with X-rays without the aid of any other agent. They support their view by the fact that of twenty-four cases so treated twenty-three remained well for one year. This is a premature and ill-advised assertion. Such an attitude does more harm than good, both to X-ray therapy and, as well, to cancer therapy as a whole.

It may be appropriate to cite a couple of facts from the work of Freiburg and Erlangen to indicate that X-ray therapy alone cannot be considered the correct treatment of every cancer case. Friedrich and Behme[14] reported from Freiburg on a series of seventeen cases of cervical carcinoma treated with X-rays alone. Five cases were given a so-called full carcinoma dose through the abdomen and back. All the five patients suffered from X-ray cachexia and severe blood changes as a result of the treatment, and the cervical carcinoma was not influenced by the treatment. The other twelve cases were treated through the vagina with better local results and less general effect on the blood, which was due to the small field of entry. The authors conclude that the general ill effect on the organism when large fields of entry are used, influence unfavorably the local effect of the rays on the tumor. Now, it stands to reason, that X-ray treatment applied through the vagina must be less efficient than radium applied directly into the cervix or the endometrium. The authors attempted to bring the rays nearer to the cervix by making a deep perineal incision, but this resulted in local implantation of carcinoma.

The X-Ray Plus Surgery

Seitz and Wintz[1], who as stated above, claim to have received good immediate results with treatment of cervical carcinoma, presented in the same publication a very instructive report on the treatment of forty-two cases of ovarian carcinoma. Nine cases were treated with surgery alone, ten cases with X-rays alone and both without any results. Twenty-three cases were operated, the main tumor masses were removed and then X-ray treatment was instituted, and the result in these cases was a great deal more favorable. They conclude that ovarian carcinoma cannot be irradiated without a previous operation since the full dose produces a "Roentgen-cachexie." Apparently a full carcinoma dose in cervical carcinoma and ovarian carcinoma are different things. In this instance the difficulty is caused by the *mass* of tumor, since ovarian carcinoma is more radio-sensitive than cervical carcinoma.

Yungling,[15] of the surgical clinic of Tubingen, working with the exact Erlangen methods, found that X-ray therapy alone, using a full carcinoma dose, gave poor results in carcinoma of larynx, lip, tongue or rectum.

The progress of X-ray therapy in the course of the last decade is due to a large extent to the fact that the German gynecologists became interested in the subject. The weakness of their stand, however, lies in their premature generalizations. Results obtained on carcinoma of the cervix and uterus cannot be transferred to cancer in other localities. The uterus and cervix is a muscular organ, which is less radiosensitive than carcinoma and presents a good protection against insults of all kind. Carcinoma of the rectum or esophagus, for instance, is very poorly protected by the thin walls of these organs. Carcinoma of the larynx is situated immediately over cartilage which is fully as radiosensitive as carcinoma tissues, and so on. Though the newest methods of X-ray therapy represent a great progress and must supersede all the previous methods of X-ray therapy, this agent cannot be considered an all-sufficient method of cancer therapy and is undoubtedly not as efficient as surgery alone or radium therapy alone.

Combined Methods of Cancer Therapy

There is no doubt that basic limitations to all the three methods of cancer therapy exist, which will be impossible to overcome by further progress in the technique. The limitations of surgery were analysed above. Both radium and the X-rays exert a truly specific selective action on cancer tissue, and biologically they present the nearest approach to a specific therapeutic measure. The limitations of both agents are due mainly to the size and location of the tumors and the comparative vulnerability of the normal tissues. Radium can be placed in near approximation to or within the tumor. The new method of buried radium emanation capillaries obviates to a great extent the difficulties created both by the size and location of the tumor. However, the size and multiplicity of the malignant tumors make the quantities of radium required prohibitive. Excessive quantities may become injurious to the rest of the organism. X-rays are less costly and may effectively cover simultaneously many areas even in the depth of the organism and influence the tumor nodules, provided they are sufficiently small. Treatment of large tumor masses is followed by severe general reaction of the organism, and, as was seen above, even a so-called full carcinoma dose does not destroy a large tumor. Further progress in cancer therapy must be looked

[14] Friedrich und Behme. Strahlentherapie, 1920, XI, 35.

[15] Yungling. Muench. Med. Woch., 1920, no. 24, p. 690.

for in the development of proper methods of co-ordination of the three therapeutic measures.

Correct Methods Illustrated

It may be well to illustrate in a few instances the correct methods of combined therapy which may be pursued.

The writer had under his care two cases of *carcinoma of the urethra* in the female. In one case a complete radical operation was done with block dissection of regional lymph glands and removal of the whole urethra with sphincter. No other treatment was instituted until three months later, when a severe recurrence took place which did not react to intensive irradiation and the patient died six months after the operation. In another case the writer was consulted before any treatment began. At his suggestion preoperative radium treatment was given and then an incomplete operation was done, removing only the tumor and leaving the posterior part of the urethra and sphincter intact, and this was followed by surface application of radium. The patient is well clinically and is so now, over two years after the operation.

In co-operation with Dr. Seeligman, at his service at the Lenox Hill Hospital, a number of cases of carcinoma of the cervix, vagina, urethra and ovaries were treated by the writer.

As was shown above, the idea of a certain number of German clinicians that every case of carcinoma or sarcoma of the pelvic organs in the female may be cured by a so-called full carcinoma or sarcoma X-ray dose administered through the abdomen and back is not borne out by the results obtained. Best results are obtained by applying a different plan of treatment for each individual case.

Whenever the tumor could not be removed surgically the main reliance was placed on the intratumoral application of buried capillary tubes of radium emanation, which is aided by surface application of radium into the vicinity of the tumor and by X-ray therapy of the adjoining areas.

Carcinoma of the larynx is very difficult to handle and the radical operation leaves a very marked deformity. In the great majority of cases the condition recurs promptly and X-ray therapy does not influence the condition. The writer, in association with S. Yankauer, treats these cases in the following manner: Preoperative radium treatment is given externally and intralaryngeally through an instrument devised by Yankauer. Then a suspension operation is done, only the tumor without any adjacent normal tissues is removed, and post-operative radium therapy instituted. One of Yankauer's patients is now well for over five years. Another is well a year and remains with such a good speaking voice that he pursues his occupation as a traveling salesman.

In border-line cases of *carcinoma of the breast* the writer buries radium emanation needles into the breast tumor and the axillary glands, places radium boxes over the tumor and glands, three to six weeks later a radical breast amputation is done, and this is followed by radium treatment of the operative field and supraclavicular region and X-ray treatment of the chest and the parts of the skeleton into which metastases may take place. Dr. Auchincloss, at his service at the Presbyterian Hospital, co-operated with the writer on some of his cases.

Carcinoma of the urinary bladder is treated by the writer in co-operation with Dr. Leo Buerger in the following manner: A cystotomy is done and if the tumor is found to be operable then it is removed and a surface applicator is placed in the bladder. If the tumor cannot be removed, then a sufficient amount of radium emanation capillaries is placed into the tumor and the bladder is allowed to close. This is followed by surface application of radium over the symphysis and per rectum and by X-ray therapy. The results of this method are very gratifying and an extensive report will be published shortly by the two investigators.

In co-operation with Dr. J. Lynch, at his service in St. Bartholomew's Hospital, and with Dr. L. Buerger, the writer has treated *carcinoma of the gastrointestinal tract* in the following way: A laparotomy is done, which is followed either by a radical operation or by an exporation with or without some palliative surgery. In all cases where the tumor is not removed surgically, radium emanation capillaries are placed into the tumor. All the operations are followed by surface application of radium and by X-ray therapy. A preliminary report on this work is in press.

Conclusions

Cancer therapy requires a great deal of sound judgment and experience in handling complex clinical conditions. A radiotherapeutist should not undertake to treat a cancer patient without the co-operation of surgeons within the different specialties, nor should a surgeon operate on a cancer case without having an experienced radiotherapeutist near to hand. No man, be he a clinician or physicist, can create a scheme which will fit all the cancer patients, or, for that matter, any two consecutive cases.

The necessity for early diagnosis of cancer is an axiom in medicine. But even in perfectly apparent advanced cases a correct estimation must be made before a hasty attempt at therapy is made. The writer had under observation a case at his service at the Montefiore Hospital on which two laparotomies were done, by a noted New York surgeon, on a diagnosis of carcinoma of the intestines. When the patient entered the Montefiore Hospital, two months later, the writer made a clinical diagnosis of an ovarian carcinoma which was subsequently confirmed by an autopsy. If a correct diagnosis were made before the operation and consequently the laparotomy in-

cision made below instead of above the umbilicus, a radical removal of the tumor may have been possible.

Even in attempts at palliative treatment, the correct aim must be kept in mind and a course pursued which will accomplish it. The following case may well illustrate the point: Dr. Leo B. Meyer kindly conferred with the writer in regard to this patient. Mrs. G., a woman eighty-five years of age, the mother of a physician, was suffering from a scirrhus carcinoma of the left breast for several years. For the last two months the tumor began to grow rapidly and cause pain and discomfort. Since the age and general condition of the patient precluded a radical operation, Dr. Meyer thought that palliative radium treatment would be the course to pursue. The examination showed a tumor the size of an orange occupying the middle of the left breast. The tumor was soft and showed apparent fluctuations, the skin over the tumor was thinned, of a bluish red color and firmly adherent to the tumor. One large lymph node could be felt in the left axilla. The writer stated that the tumor would ulcerate very soon and even more promptly if radium treatment were attempted. This would be followed by foul discharge and great discomfort to the patient and surroundings. He suggested, therefore, that an incomplete excision of the tumor with the adherent skin be done without any attempt at removal of breast or lymph glands. The operation should then be followed by surface application of radium. The palliative operation was performed and no attempt was made to remove the tumor completely, the skin, however, was excised widely, sutured, and healed by primary union. Under subsequent radium treatment the remnants of the tumor in the breast diminished in size and the gland in the axilla disappeared. It is nearly two years since the operation, and the patient is free of any local or general disturbance.

The writer has had occasion to observe so many hopeless cases of cancer in which an error not only in the diagnosis but also in the method of treatment was made previous to their entering the cancer division of the Montefiore Hospital that it was thought that it would increase the efficiency of the service of the institution to the community by organizing a *clinic for diagnosis and treatment of early cases of cancer*. This clinic is equipped with radium emanation laboratories, high-voltage X-ray therapy apparatus, and is assisted by all the facilities of the surgical and all other divisions of the hospital.

A *group study* is thus established in the clinic of the complex diagnostic and therapeutic problems of cancer, which is in the opinion of the writer the only method of approaching the subject. Cancer research today needs co-operation of physicists, chemists, pathologists, biologists and clinicians of all specialties in medicine and only teamwork may accomplish results.

Ludwig's Angina

Requires Immediate Surgical Attention

CASE REPORT ILLUSTRATES FATALITY OF DELAY

By Mayer Shoyer, M.D.,
Soldier, Kansas.

To Surgeon or Undertaker

When crossing a railroad you stop, look, and listen. When crossing Ludwig's Angina you do not; you rush your patient to the surgeon, or the patient will go to the undertaker, as is emphasized in this short but illuminating paper of Dr. Shoyer.—Editors.

Angina Ludovici is a rare acute phlegmonous inflammation of the floor of the mouth. It is said the condition is more common in the male, and may be secondary to specific infections (diphtheria, scarlet fever, mixed infection), insignificant lesions in the mouth, carious teeth, ulcers, tonsillitis. It may result from trauma. The specific organism is generally the streptococci; bacillus coli or staphylococci may be found.

Symptomatology and Pathology

The symptoms are said to be intense at the onset (but this is not always so), and begin with swelling in the region of the submaxillary gland, with rapid involvement of the cellular tissue of the floor of the mouth, as well as of the anterior portion of the neck, causing a brawny tense edema from jaw to clavicle and sometimes involving both sides. The head is held backwards; there is always fever, frequent delirium, and later prostration, severe sweats and coma.

Early in the disease the swelling is not discolored but later it becomes a deep red. These cases of cellulitis of the neck do not tend to prompt suppuration. In a severe case the patient dies from sepsis before there is any external evidence of pus formation, but by going deep beneath the fascia pus is found. Delay in operative interference in these cases means death.

Diagnosis and Treatment

Diagnosis from ordinary lymphadenitis is easy by its extension outside of the gland, which cannot be palpated nor moved about, glands and surrounding tissue being in one brawny mass. The prognosis is serious; cases left to nature die. Early operative interference will save the majority.

Treatment is surgical, an incision in median line or over submaxillary gland, respecting the large blood vessels. No doubt early in these cases the pus is very deep; yet by using the finger or a blunt instrument, different areas in the neck may be explored with

the hope of reaching pus. Incisions below the deep fascia will serve as drains in case no pus is encountered; pus may flow later.

Late cases do not take a general anesthetic well and must be operated on under local anesthesia. The process is frequently bilateral and the finger can be pushed across the median muscles to the other side, which should also be drained. Hot moist compresses are to be used for the dressings.

An Impressive Case

A strong healthy man complained of feeling badly, about the first of April, the first symptom being a sore throat. He was up and down for several days, some days feeling better than others. There was some swelling over the left submaxillary gland and a husky redness, some difficulty in swallowing and fever. On April 12, 1922, the neck swelled rapidly, and he was delirious. Up to this time he had been treated for tonsillitis. I saw the case, for the first time, on April 15. The neck was then swollen nearly even with the chin and extended to the clavicles, and was bilateral. There was nearly constant delirium and a rectal temperature of 106.5° F., a very profuse perspiration, and dysphagia.

Ludwig's angina was diagnosed and immediate operative measures advised, which were performed that morning. A median incision just above the thyroid cartilage and another over the lower border of the left submaxillary gland was made; deep in the neck pus was encountered in large quantities, of a dark green color and colon bacillus odor; drainage tubes were inserted and a hot pack of permangate 1-2000 was applied.

For a week the patient's temperature fluctuated between 99 and 104½° F.; the sweats and delirium continued, only milder in character, but at this time patient was no better, though the neck was down to normal size and tubes were draining well. As moist rales now appeared in upper part of right lung, he was sent to a hospital, where x-ray examination showed pus cavities in lung and in pericardial sac. These cavities were drained several times. The patient died.

Necropsy showed abscesses throughout both lungs, pericardial sac, destruction of part of thyroid gland and other organs.

This case demonstrates the necessity of an early diagnosis and early operative measures.

Conclusion

Any swelling in the region of a submaxillary gland and floor of the mouth, with constitutional symptoms out of proportion, should be promptly explored because it may be Ludwig's angina.

The mortality is high and cases rare, so that exploratory incisions are justifiable in all patients having a swelling in the region of the submaxillary gland and floor of the mouth, with a tendency to spread.

PHYSICIANS

SHOULD LEAD Patients to Right Living

and to

Children WELL Born

By E. T. Schreiner, M.D.,
190 Maplewood Avenue, Philadelphia, Pa.

Young people just entering maturity may be readily impressed with high ideals and strong desires to achieve great things. The amassing of money—if only causing it to change hands—is, of course, not creative work, and the wise spending of money, although laudable, is also not necessarily creative work. Greatness is not achieved along that line. But the making of two blades of grass grow where only one grew before *is* using creative energy and this creative instinct of youth calls to you, Doctor, for safe direction.

As man is the crowning creative work of God on earth, the creation of a new human life is the greatest creative work of which man is capable. As far as our knowledge goes, God—I say it reverently—cannot create a new human life without man's help. The ending of life is inevitable, but the beginning, the creation of life, depends upon the parents.

The Parents' Responsibility to the Unborn Child

What greater responsibility can be assumed than the creation of a new life? And what greater work than giving to that new life a normal inheritance? In order that a child be born well, the desire for it should be mutual and both parents should be at their best at the time of conception. No restrictions or reversals should be practiced—if a man got his car under way at highest speed and then jammed down the brake or reversed the engine, it would not be good for the machine, would it? Playing at cross purposes is always injurious, and especially so in birth control, so-called; how can it be other than injurious to all concerned to follow *creative* effort with *destructive* effort? Finer children or stronger parents, through reducing the number of children in *that* way, seems a fallacious hope.

The life of the Roman Emperor Nero has been used as an illustration of the lowest degradation possible to man. What did he do to distinguish himself in wickedness? Cut off the heads of a few objectionable relatives! Made torches of the Christians. "Everybody did it," for it was then the customary way of disposing of undesirable people. Emperor Nero enjoyed his food so much that he took an emetic after eating that he might sooner repeat that pleasure! Are not very similar practices condoned today?

The Opportunity and Duty of the Physician

Where am I wandering, do you say? I am not wandering, but taking the straightest way I know to impress the fact that to have babes born well we must have parents living well. We cannot control the third or fourth *past* generations, but we can bring to the *present* the accumulated knowledge and wisdom of *all the ages;* and we of the medical profession have that knowledge and authority. We should not be content to condone wrong acts because "Everybody does it." Although following the crowd is, perhaps, easier than leading, yet it is ours in all things pertaining to health *to lead.*

Advice to stop and think may be worth more than any drug prescribed. Give more time to impressing on patients the necessity for *right living,* and less to removing the effects of *wrong* living. We may not thus become wealthy, but we will have a following of those who are truly seeking the welfare of mankind, and what greater honor can there be than that of improving our race!

Impress it on your patients that in order that their babies be born well, the parents must live well, must exercise mutual consideration, must each breathe pure air, eat pure food, drink pure water and abstain from drugs and toxics. They must take abundance of physical exercise and full daily ablutions. And they *must* wear comfortable clothing—I wonder how many baby ills are due to the mother's shoes? They must also spend their nights in *sleep,* must exercise their minds with the best reading and most aspiring thought, dwelling on—in thought—and imitating—in action—their highest ideal. So shall the "Flesh help Spirit, even as Spirit helps Flesh."

Physicians, it is your opportunity—not to follow—but to LEAD.

Gonococcemia and Metastatic Gonorrhea

Stressing Gonorrheal Arthritis

By Hyman I. Goldstein, M.D.,
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Assistant Visiting Physician and Chief of the Medical Clinic, Northwestern General Hospital, Philadelphia; Assistant in Medicine, Graduate Medical School, University of Pennsylvania, Philadelphia; Assistant Visiting Physician, Philadelphia General Hospital.

Frequent, Intense, Obstinate

Gonorrheal arthritis is too frequent, too intense, too obstinate a disease to require introduction or emphasis. Such being the case, we know Dr. Goldstein's able presentation of this subject will be fully appreciated by our readers.—Editors.

THE OCCURRENCE, during the past twelve years of my practice, of a number of interesting cases of gonorrhea, associated with various complications, the great prominence now being given to focal infections, and the lack of any definite form of treatment recommended in textbooks and recent literature, have led me to gather together a few facts on this important class of infections that are too little emphasized and still less recognized. When we consider that gonorrhea is the most prevalent of all infectious diseases, that it leads to acute and chronic complications of which gonorrheal arthritis is the most serious and damaging, occurring in from 2 to 5 per cent of gonorrhea cases, the phase of this subject certainly deserves a prominent position. I will deal principally with gonorrheal arthritis.

The first probable demonstration of the invasion of the blood by gonococci was made by Wertheim. Absolute proof rested with the cultivation of these organisms from the circulating blood by Thayer and Blumer in 1895. Hewes, in 1894, succeeded in isolating the gonococcus from the blood of a patient in a case of arthritis.

Rufus Cole made a study of twenty-nine septicemia cases collected by him, and he divides them into four groups—(1) Cases with malignant endocarditis with fever, sweating, chills and septic infarcts in some; (2) Cases with local suppurative lesions in internal organs or in subcutaneous tissue and features of pyemia; (3) Cases with no metastatic local infections—all these cases recovered; (4) Cases of gonorrheal puerperal septicemia. Some authors state that as many as 25 per cent of all cases of puerperal fever are due to gonococci.

The prognosis is not necessarily hopeless when gonococci are cultivated from the blood. The prognosis is worse when endocarditis is present. Of Cole's twenty-nine cases, twelve died, sixteen recovered, and one not stated. As far as (Cole) secondary metastatic lesions are concerned, it seems probable that they are usually due to the transmission of a very few bacteria through the blood and their localization in loci minoris resistentiae. The most common primary focus is a chronic prostatitis or vesiculitis in male, or salpingitis in female. (Treatment of these foci along with appropriate local treatment is necessary.)

Gonorrheal Possibilities and Metastasis

Gonorrhea is an acute infectious disease, and locally is a contagious catarrhal inflammation of the genital mucous membrane, chiefly propogated by illicit sexual intercourse and due to the micrococcus gonorrhoeae or gonococcus Neisser. We know too well that this disease may limit itself to the mucous membrane of the genitalia—(1) the local (primary) disease; (2) it may invade the genito-urinary organs, bladder, kidneys, tubes, ovaries, etc., by direct continuity of structure, secondary local infection, and (3) it may enter the blood stream and cause constitutional infection with metastatic involvement. It is this last group, in particular, with which I wish to deal in this paper. Very little has been written on this subject recently; very little space is given to this serious complication and its treatment in the textbooks of general medicine and in special treatises on the genito-urinary organs.

Any case of local gonorrheal infection is liable to systemic and metastatic disturbances, manifested by symptoms of general toxemia and localized inflammation, especially in the joints, heart, meninges, chiefly in and about the joints. The condition is probably due to the entrance of the gonococcus into the blood and to the absorption of toxins.

Gonorrheal "rheumatism" so-called, is the most common localization in septicemia cases. It may occur in infants, as a complication of gonorrheal ophthalmia neonatorum and in young children (vulvovaginitis).

Angle cited a case of ophthalmia neonatorum occuring forty-eight hours after birth, followed two weeks later by an arthritis involving the left wrist and right knee; also a second case which, infected in a similar way, affected both wrists. C. Lucas collected twenty-three such cases of gonorrheal rheumatism in infantile subjects of ophthalmia. It is evident that gonorrheal arthritis is not limited in its origin to the urinary and genital tracts.

In these days, arthritis due to focal infections are most frequently traced to tonsils and teeth—yes, and patients have had their teeth and tonsils removed for so-called rheumatism, when as a matter of fact they were harboring gonococci in the urethra, vagina, tubes or prostate. In such cases, of course, examinations of the smears and a blood complement fixation test for gonorrhea would have cleared up the diagnosis and, with proper local and general treatment, the cases would have been cured, without the needless removal of good teeth and innocent tonsils.

Symptomatology and Pathology of Gonorrheal Arthritis

Gonorrheal arthritis most commonly begins in the acute stage of a urethritis and may be associated with a temporary subsidence of the discharge. It may not occur until after the discharge has greatly diminished or not for several weeks after the beginning of the attack. It comes on usually during the third or fourth week of the disease. Its onset is seldom abrupt, and is usually unattended by chills or high fever, though there may be a rise to 101°-102°. Most frequent in men, rare in women.

It is often stated that it is monarticular; however, although it may only affect a single large joint, more often two or three or even four joints are involved. The polyarticular involvement may last only a few days. In almost all cases, more than one joint is involved. In all but three of Cole's fifty cases, there was polyarthritis. Of course, many cases seen in the later stages, when the disease is frequently localized in one or two larger joints, will show monarticular involvement and, if the history is not considered, a mistake is made.

The affection is not so migratory and fugacious as acute polyarticlar rheumatism. The joints remain inflamed and only improve slowly. The ankles, knees and wrists seem to be especially liable to gonorrheal inflammation. Often the vertebral, sacro-iliac, tempero-maxillary and hip joints, may also become affected.

Previous rheumatic diathesis has no bearing on this disease and in the cases which I have seen, no such connection could be traced—on the contrary, they were usually patients who were young and healthy, and have been remarkably free from muscular and joint pains.

The joints remain inflamed and only improve slowly. The inflammation is endo-articular and periarticular, and the tendon sheaths also become involved with a resulting teno-synovitis. Serous or sero-purulent effusion may appear. Relapses are frequent, and disabling ankylosis may result. This disease was first noticed coincidently by Selle and Swediaur more than one hundred and twenty-five years ago.

Often the disease expends its violence on the fibrous and bursal structures about the knee, elbow or ankle. The muscles and their tendons, the sheaths through which they pass, the bursal sacs, and the nerves, may also suffer. When gonorrheal "rheumatism" attacks the synovial membrane of a joint, though there may be little pain and an entire absence of surface redness, there will generally be a considerable effusion into the cavity of the (joint) articulation, which is not easily removed.

Osler states that the knees and ankles are most apt to be involved. Suppuration is unusual, and he suggests that the non-suppurative cases are due to the action of the gonococcic toxins taken up from the area of primary infection, and that the suppurative cases are due to mixed infection with pyogenic bacteria. In most of my cases the inflammation was located around, rather than in, the joints.

Blood Changes in Gonorrheal Arthritis — and Endocarditis

Anemia is not so marked as in rheumatic fever. A moderate grade of leukocytosis is the rule. There is

(*Continued on page* 806)

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practioner must be recognized. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

One Reason Why We Lose Practice

FOOLISH QUESTIONS? NO, NOT TO THE PATIENT

A Very Practical Matter

This, at start, may seem mildly humorous. To anyone who is concerned for the continued success and prosperity of the regular profession, it is anything but humorous. An intelligent understanding of human nature and a reasonable capacity to adapt to it is a very practical matter. And very important to success in any kind of work where contact is direct and personal, as it is in the practice of medicine.

THE LAY MIND has never been plumbed to its depths in things medical, as we often realize when questions are asked of us, "Doctor, why does my right eye twitch and my left one doesn't? Why do I gurgle inside at night and not in the daytime? Why do I have gas on the stomach when I take a drink of water, yet sleep all right on a heavy meal? Why is my rheumatism always on the left side? What are the specks I see floating before my eyes? Why is my tongue always coated in the winter and not in the summer? Why should wet feet give me a cold in the head? Why does malted milk agree with one twin and not with the other? How can I tell whether a mosquito bite will give me malaria or not? Do Doane's kidney pills have the same medicine in them that you are giving me? Is it true that yeast prevents appendicitis? Just what do vitamines look like and do the different kinds look alike?" No wonder we fainted after that seance and felt like we had visited a psychanalyst and were just coming up for air in deep water and did not know how to swim.

And the what-to-do questions are worse yet. "What can I use to keep from getting sunburn? Please tell me what to use to keep my hair from getting stringy at the seashore. What simple remedy can I use for bleeding piles? Had I better use aloe or aloes for constipation? What sleeping medicine had I best buy at the drugstore? What ready-made gland medicine do you recommend as best? What simple medicine do you recommend for sleepy spells in the daytime? My chiropractor says my trouble is making too much bile and he is giving me adjustments for it; but what medicine had I better buy to keep me from making bile?" This midsummer bombardment gave us an attack of hay fever.

Foolish Questions? No, Not to the Patient

We all get that sort of thing, more or less, every day, for people can ask thousands of such questions; and the way we satisfy them or fail to do so has much to do with our success or lack of it. The erstwhile family doctor of the back country could answer the multitude of questions better than we can today, for his patients were not booked up on pseudoscience and they resorted to simple herbs instead of more or less denatured poisons sold by the ton in the drug stores.

This article is designed to help meet this situation. Your patients are perfectly sincere when they bombard you with such a string of profound questions usually based on trifling symptoms from which they suffer. If they have typhoid or pneumonia, or other well defined disease, they call you to attend them, but they are constantly advised in newspapers and magazines, by health workers, etc., to ask their doctor about their small troubles, and they expect to get this information for nothing. Naturally, when the doctor is busy and has profitable work waiting, he snubs these people and chokes off their flow of questions. Then they go elsewhere and you lose their practice.

Yet, don't forget this: the whole trend of medicine is prevention, and the physician who hopes to succeed in practice must, per force of circumstances, get in line. But he does not have to do it for nothing.

When a patient bombards you with a string of ques-

tions, take it calmly and analytically. Their very questions give you an insight into the case, so let them ask questions to the point where you get a good lead. Now is the time to explain their need for *a thorough physical survey,* after which you can answer their questions intelligently. Then set a time out of your usual hours to examine the patient thoroughly and elaborately, adding necessary laboratory tests, and let it be understood it is for a substantial fee on a giving-service basis. Usually the patient will be *pleased* and get his money's worth.

The Trifling Case

After letting the patient run down with his string of questions, then it is your turn. Almost invariably you will find he will own up to doing foolish things, neglecting personal hygiene, running after quacks and faddists, etc. Nine times out of ten he needs no medicine, but he does need guidance, *especially hygienic guidance.* Almost always these annoying little symptoms have a definite cause, traceable to neglect of personal hygiene, defective living, taking trash bought in the drug stores, or following fool advice given by a pseudo-doctor, but the tenth case shows a *real pathology* that, taken in time, may save the patient's life.

A patient will listen to any line of fool talk if the fool talker shows *an interest in him* and his affairs. If an educated physician does not take an interest and *actually examine* the patient, it is not at all to be wondered at that he patronizes the pseudo-doctor; it's *the most natural thing in the world.* But if the educated physician does as above suggested, takes a real heart interest in the patient, and actually shows him by the findings of a painstaking examination just what is or is not wrong, then the patient *has confidence* and is ready to listen to medical common sense and to forget what the fool talker said to him. It is easy money to line up patients for modern medicine if we only go at it right.

Useless Medication

We get into office after office of non-specializing physicians and find a whole string of people waiting, and it is surprising how quickly they are railroaded through, diagnosed, given a box or envelope of some one of the fifty-seven, more or less effective, kinds of tablets on hand, and shoved courteously out, their questions *unanswered.* Shame on such practice! Any intelligent osteopath does better work and *we may as well admit it.*

There are thousands of osteopaths, chiropractors, etc., making good livings out of doing work that physicians have refused to do, *viz.,* attend *painstakingly* to the *little* aches and pains of humanity without doping them. These faddists do not treat many really serious cases, their work being with the very class of *justly dissatisfied* patients we are here considering. The public is getting tired of little pink envelopes of dope, most of it not needed, as we well know. If you do not believe the osteopath makes a painstaking examination, go and consult one. There is an eye-opening awaiting you. He may be dead wrong in his theory, and all that sort of thing; but he is on the job, and he *believes* in his job and makes his *patients believe in it.* Doctor, if you can't satisfy these patients as well as the osteopath satisfies them, he will get them and it will be *your fault.* The idea that practicing medicine consists of two parts, one being, *doing* something as a specialist, and the other, *giving* something as a general practitioner, is as dead as any political platform of two decades ago.

We Need to Shake Up Our Medical Schools

Our schools are giving splendid training in the *heavy* work of medicine and the *specialties;* but they are *positively not* turning out young practitioners who *intelligently* handle the *vastly more numerous small things.* These relatively easy cases are left more and more to the so-called irregulars and faddists. After while, after they have secured all the small cases, they will get the big ones also. *Then whose fault will that be?*

When we pursue this course we are not giving the people the medical service they want and rightly expect from their physician. Yet, we *complain* that the people fail to support the regular profession as once they did.—T. S. B.

Heart Disease in Pregnancy

Selian Neuhof (*J. A. M. A.,* Sept. 9, 1922) says we possess at present no instrumental guide or tolerance test which can adequately measure the cardiac reserve of the diseased heart of the pregnant woman. Each case must be individualized, and the presence or absence of heart failure noted. The best clinical guide for heart failure is a detailed study of the patient's symptoms, together with a detailed study of the physical signs. Cardiac neurosis, decompensation and endocarditis recurrences seem the best inclusive grouping of all types of cardiac symptoms that occur in pregnancy with heart disease. The degree of decompensation and the month of pregnancy together determine the type of procedure. Decompensation that does not quickly and permanently react to medication requires interruption of pregnancy at any stage. When viability has been reached and decompensation is moderate or absent, cesarean section, when skillfully and rapidly performed, seems to be well withstood by the diseased hearts of pregnant women. It prevents the cardiac strain incidental to labor; it may likewise prevent a lingering, cardiac recuperation following labor. Should the woman come to term, the labor should be shortened as much as possible. Ether is the anesthetic of choice.

Do not be unduly elated over a case of syphilis which never shows a skin or other visible lesion. A false sense of security may be developed in such cases. Cerebrospinal syphilis is all too often a consequence of a false sense of security.

Constipation in Young Girls and Women—

especially those who spend much time indoors engaged in sedentary pursuits—is almost invariably attended by a retention of waste and toxic substances. Sooner or later these make their way from the bowel into the general system and give rise to a host of autotoxic ills.
Correction of this condition is imperative, and the safest, simplest and most effective remedy for the purpose is

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Is Medical Education Becoming Impractical?

IS OUR FORCED STANDARDIZATION AND MULTI-SPECIALIST TYPE OF EDUCATION PROVIDING THE MEDICAL SERVICE THE PEOPLE NEED?

SUCH CONCERN is being expressed in medical circles over the future supply of physicians for small communities, due, so it is claimed, to over-educated young graduates not caring for anything but a city location, but *really* due to the fact that most small communities provide no hospital or laboratory facilities, and the further fact that the more intelligent residents go to the city for most of the work yielding good fees. It is a difficult thing, in the average small community, for an up-to-date practitioner to develop himself, and hence these communities are avoided by the new graduate. The problem is to educate the communities up to the modern standard, not to educate doctors down to the community standard.

Yet, it is a fact that a forced standardization does not work any too well in medical education, and the American plan of conferring the doctorate before a man is allowed to practice has certain disadvantages, one of them being that the expense and time incident to the modern curriculum is a heavy weight, and it compels a multi-specialist type of education that does not produce general practitioners of a kind sadly needed.

The writer, like many other physicians, has had to face the problem of educating a son. The boy would not study medicine, so he went to a state agricultural college direct from technical high school, where a four-years' course gave the B. S. degree and also a profession, which offers more income to him from the start than he could expect to get for several years in medical practice and saves him five years in medical school and hospital. Dad also has five years' less freight to pay, though he realizes that his boy is not a doctor of agriculture, which probably is no disadvantage to the boy.

The Law of Professional Gravitation

A man does not come out of college as a doctor of chemistry, engineering, theology, law or mining, but our notion of things is that osteopaths, chiropractors, chiropodists, dentists and physicians must be called "Doctor." This purely academic degree has lost its academic significance and has become cheap, no longer definitely standing for advanced scholarship or professional attainment.

The average doctor of medicine has no academic incentive to progress, and most of these doctors *do not* progress in scientific attainment. Rather, the law of professional gravitation tends gradually to pull them down to lower scientific standards, and there is no provision made for *keeping* physicians up to standard except for the individual physician who is so placed that he can do it to take what we fondly call post-graduate instruction, but which rarely is more than a mere jacking-up course for old graduates. This is a sad way to produce advanced students and usually amounts merely to sending a worn practitioner in for repairs.

Medical Standards

Considered from the standpoint of the doctorate, medical standards are low at present, but considered from the standpoint of training a man to *begin* medical practice, the present standardization is top-heavy. Even a four-years' course in medical school is utterly inadequate to cover the subject completely, even as all branches of engineering could not be taught in this period. Engineering schools know better than to try to give such an all-inclusive course.

Then why not rearrange the medical course, granting the degree of B. S. in medicine, sending the men out to practice general medicine, and providing for a master and a doctor degree by really earning the first one by study and the second by practical attainment?

Gonorrheal Arthritis—Goldstein

(*Continued from page 802*)

no apparent relationship between the degree of leukocytosis and the severity of the lesions.

The association of endocarditis with gonorrheal arthritis was recognized as early as 1847 by Ricord. Thayer and Blumer, in 1895, proved this with blood cultures during life and in smears from the thrombus on the heart valve after death. Kulbs collected forty-nine cases (thirty-six in men and thirteen in women) of endocarditis; twenty-eight cases were aortic and eight mitral. Thayer found seven aortic and two mitral lesions in fifteen cases collected. The right heart was affected more frequently in gonococcal than in simple endocarditis. Von Leyden first described a case of genuine gonorrheal endocarditis. Later, Finger, Schlagenhaufer, Lenhartz and Ghon described cases of gonorrheal endocarditis.

Phlebitis and Skin Eruptions

Heller has collected twenty-six cases of gonococcal phlebitis, in fifteen of which arthritis was also present.

Gonorrheal skin eruption may occur in cases of arthritis. Buschke divides them into four groups—(1) simple erythema, the most frequent form; (2) urticaria and erythema nodosum; (3) hemorrhagic and bullous eruptions, probably embolic in origin in very septicemic cases, and (4) hyperkeratosis. This is a most interesting group because the lesions are

(*Continued one leaf over*)

Is Mineral Starvation a Primary Cause of Disease?

PHYSIOLOGISTS now generally concede that a demineralized diet reduces the supply of vital energy, and helps prepare a tissue-soil favorable to the growth of pathogenic germs.

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apparently specific. They have been extensively described by Baermann. This follows a severe general infection with joint lesions. Emaciation and anemia are quite pronounced. They appear suddenly on palmar and plantar surfaces or about the nails. The French writers consider the condition a trophoneurosis due to toxic changes in the nerve endings. Baermann does not think the crust formation a true keratosis, but a dermatitis papillaris parakeratotica.

Roth thinks them "angiopathic" skin eruptions. It is to be remembered that exanthemata may develop in gonorrhea that are not due to drugs or sera. Buschke thinks they are due to gonorrheal toxins. Vidal and Besnier consider them trophic myelopathic toxicodermata.

Herpes labialis has been observed by Lenhartz, Irons, Thayer and others.

Other complications such as iritis, pericarditis, and pleurisy may occur.

Genesis of Gonorrheal Arthritis

There are two views as to the direct cause of the most frequent and also the most important complication of gonorrhea—namely arthritis: 1, that it is due to the action of soluble toxins elaborated at the seat of local infection and 2, that it is due to localization in the joints of gonococci, which have gained access to the general circulation or have passed from the local lesions to the joints through the lymphatic channels. The view that the lesion is due to the localization of gonococci in the joints is now well established by the cultivation of these organisms from the joints in a large number of cases. The organisms are often present in the tissues, even where the examination shows the exudate to be sterile. The gonococci probably reach the joints through the blood current. A slight injury to a joint may so render them loci minoris resistentiae as to predispose these joints to such localization of infection. Wm. H. Park says the pathogenic effects exerted by gonococci are chiefly due to endotoxins.

Forms of Gonorrheal Arthritis

Koenig classifies these joint conditions—1, Hydrops gonorrhoicus; 2, arthritis sero-fibrinosa et catarrhalis; 3, arthritis purulenta (empyema of joints); 4, arthritis phlegmonosa (essentially the peri-articular or para-articular form).

1. Arthritis with serious effusion—with little structural change in synovial membrane, and the joint is more or less distended with a clear, serous fluid.

2. Arthritis with sero-fibrinous and catarrhal exudate synovial membrane is more decidedly infiltrated and the fluid contains flocculent masses of fibrin.

3. Suppurative variety—joint cavity is filled with pus. Osler says mixed infection is rare.

4. Phlegmonous—rarest—causes the greatest damage to the joint and surrounding structures, and results in the greatest functional disturbances.

According to Osler, gonorrheal arthritis is classified as 1, arthralgic—wandering pains about the joints, without redness or swelling, persisting for a long time; 2, polyarthritic—several joints become affected, fever is slight, local inflammation may fix itself in one joint, but more commonly several become swollen and tender, cerebral and cardiac complications may occur; 3, acute gonococcus arthritis, in which a joint, usually the knee, becomes suddenly involved, the pain is severe, the swelling extensive, due chiefly to periarticular edema, the general fever is not at all proportionate to the intensity of the local signs, the exudate usually resolves, though suppuration occasionally supervenes; 4, chronic hydrarthrosis—usually monoarticular and is particularly apt to involve the knee, comes on often without pain, redness or swelling, pus is rare; 5, bursal and synovial form—attacks chiefly the tendons and their sheaths, the bursae, and the periosteum, the articulations may not be affected, the bursae of the patella, the olecranon and the tendo-achilles are most apt to be involved; 6, septicemic form, in which, with an acute arthritis, the gonococci invade the blood, and the picture is that of an intense septico-pyemia, usually with endocarditis; 7, painful heel of gonorrhea—a remarkable form of pododynia, due to local periosteal thickening and exostosis on the os calcis, at the insertion of the tendon of achilles and the plantar aponeurosis, causing pain and great disability. Baer has demonstrated the gonococcus in the periosteal lesion. Retro-calcaneal bursitis may be present, giving a cystic enlargement, along with the periostitis and exostosis. The achilodynia (or pied blennorrhagique) manifests itself as a painful swelling below the insertion of the tendon achilles and interferes with walking.

According to Robert W. Lovett, of Boston, the types of gonorrheal joint affection are as follows: 1, arthralgia without definite lesions in the joint; 2, acute serous synovitis with much peri-articular swelling; 3, acute fibrinous or plastic synovitis with slight effusion; 4, chronic serous or purulent synovitis; 5, involvement of peri-articular structures, such as bursae and tendon sheaths.

Peripheral nerves may become affected. A. Fraenkel, Fournier, Lesser and others have observed ischialgia. Engle-Reimers has described cases of neuralgia of gonorrheal origin in the region of the ischiatic, obturator, crural and auditory nerves.

Roswell Park was among the first to report a case of typical pyemia following gonorrhea and to recognize it as such.

(Continued in December issue)

To protect himself, a physician should warn a patient recently broken out with erythema multiforme that temporary changes in type and degree of involvement are part of the nature of the disease and not due to medicines he may prescribe.

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Book Reviews

The Vitamins

By H. C. Sherman, Professor of Food Chemistry, Columbia University, and S. L. Smith, Specialist in Biological and Food Chemistry, U. S. Dept. of Agriculture. Issued under the auspices of the American Chemical Society. Cloth, illustrated, 273 pages. The Chemical Catalog Company, Inc., 1 Madison Ave., New York City.

This authoritative presentation of the subject of the vitamins details the historical development of the vitamin theory, the various researches leading to our present knowledge of the subject, and, as well, gives a wealth of practical detail that makes of the work an especially satisfying treatise. Especially valuable to the physician is the clear outline of the clinical phases of the subject. We wish to commend this book as of the highest value.

Mental Hospital Manual

Oxford Medical Publications. By John MacArthur, M.R.C.S, L.R.C.P., Senior Assistant Medical Officer, London Mental Hospital, Colney Hatch; Lecturer on Mental Diseases to the North-East London Post-Graduate College. London. Henry Frowde and Hodder & Stoughton, The Lancet Building, 1 and 2 Bedford Street, Strand, W.C. 2.

The object of this book is "to place before the newly joined medical officer in a mental hospital, as concisely as possible, those methods of treating the insane which experience has proved to be satisfactory. Nothing in the way of treatment has been recommended which has not stood the test of experience, and the opinions of practical men only have been sought." This purpose has been adequately accomplished in the publication of this modest little work.

Studies in Influenza and Its Pulmonary Complications

By D. Barty King, O.B.E., M.A., M.D. (Edin.), M.R.C.P. (Lond. and Edin.), Physician to the Royal Chest Hospital, London; Consulting and Examining Physician to the Church Army Sanatorium for Children Suffering from Pulmonary Tuberculosis, Fleet, Hants; Honorary Consulting Physician to the Royal Caledonian Schools, Bushey, Herts; Late Major R.A.M.C. (Temp.), in charge of the Medical Division, County of London (Horton) War Hospital, Epsom. With 31 illustrations. Paul B. Hoeber, 69 East 59th Street, New York City, 1922. $2.00.

The aftermath of the late influenza epidemic is still with us. We are still reaping a considerable harvest in weakened, debilitated and devitalized individuals.

(*Continued one leaf over*)

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	Dallas, Tex. 1805½ Commerce St.	

The disease, then, its outbreak, its ravages, complications and after-effects, so excellently presented in this small but compact modest work, will prove, we feel certain, of unusual value and interest.

The Place of Version in Obstetrics

By Irving W. Potter, M.D., F.A.C.S., Obstetrician-in-chief, Deaconess Hospital and St. Mary's Maternity Hospital; Attending Obstetrician, City Hospital and Buffalo Homeopathic Hospital. Cloth, 138 pages, 42 plates. C. V. Mosby Company, St. Louis, Mo. Price $5.00.

Dr. Potter has long advocated the more free employment of version and has reported over 4,000 cases so delivered. In one series of 1,113 cases of labor of all types he employed version in 920 cases. His mortality record, both maternal and fetal, is exceptionally favorable. It is undoubtedly the case that, in his own hands, the author of this book has justified his practice, so far as results are concerned. Furthermore, he has developed the technic of version in a way creditable to himself and safe for the competent obstetrician to copy.

But when it comes to the recommendation that version may with advantage be employed in 90 per cent. of all cases by other competent obstetricians, and simply to eliminate the second stage of labor and to shorten cases, the profession is not apt to follow his teaching. Undoubtedly it is true that version should often be employed where the forceps are used, and as preferable to the latter; but the reviewer, having done many versions himself and knowing the great value of the maneuver, would advise caution. The book is an excellent instance of special pleading, possesses many good features, but it fails to show valid reasons for stressing version to the extent that the author does.

A Manual of Clinical Laboratory Methods

By Clyde Lottridge Cummer, Ph.B., M.D., Associate Professor of Clinical Pathology, School of Medicine, Western Reserve University. Cloth, 484 pages, 144 illustrations, eight in color. Lea & Febiger, 706-10 Sansom Street, Philadelphia, Pa. Price $5.50.

Dr. Cummer is an experienced teacher who has exceptional opportunity to apply clinically all of the modern laboratory methods of diagnosis, hence he is in position to prepare a text that is a safe and reliable guide for student and practitioner. There is a minimum of "The Author's Method," which is a blessed relief, since too many books have this as an excuse for being, and Dr. Cummer modestly proceeds to tell clearly just what the reader wants to know, and having told it quits. The book is creditable alike to author and publisher and can be commended on its merits.

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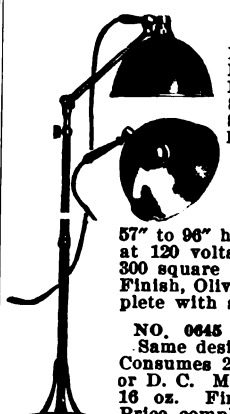
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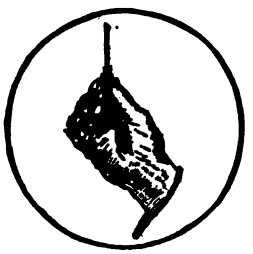
The Philo Burt Appliance is designed on correct anatomical principles. It is not rigid, yet gives the required support and extension. It is light in weight and comfortable to wear. It is perfectly adjustable and is made to fit each individual patient. The measurements can be easily taken by any physician and the company stands right back of the doctor taking the measurements. A perfect fitting appliance is assured for; should alterations be found necessary they are cheerfully and promptly made.

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(Continued one leaf over)

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Scientific Basis of Intravenous Therapy

Loeser, in an article entitled, "A New Field for Pharmacological and Therapeutic Research," N. Y. M. J., October 19, 1921, states the basic, scientific principles on which his pharmaceutical work is founded. He draws attention to the fact that the therapeutic value and pharmacologic action of certain remedies are based on the effect upon the colloidal state of the blood stream and body fluids, which in turn effect the respiratory and chemical exchange between the tissue cells of the body. He compares the effect of remedies introduced to the effect of bacterial and elementary proteins on the colloidal state of the blood stream and body fluids.

Loeser, for the first time in medicinal literature, demonstrates the establishment of scientific facts underlying the action of certain remedies which obey the laws recently established in the study of colloids. Briefly, that remedies of elemental substances act as electrolytes on the blood, which he points out is a typical colloid fluid, with the erythrocytes in suspension in the plasma, a hydrophile colloid; and that the intensity of the activity of these elemental remedies is based on their valence.

He demonstrates that the monads such as iodides, are tolerated in large doses; the diads such as calcium are more active; and that the triads, arsenic, antimony and iron are the most toxic group, and produce profound changes in the colloidal state of the blood and tissues.

Complete reprints will be sent to American Physicians readers on request. Address: "Journal of Intravenous Therapy," 100 West Twenty-first Street, New York City.

(*Continued one leaf over*)

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The Obstetrical "Shoe Horn"



Anatomically Correct as Regards Size and Shape

Where the foetal head engages against the pubes instead of emerging directly toward the birth canal this instrument is worth its weight in gold. The head of the foetus may be readily deflected toward the canal. Eliminates hours of suffering and danger to mothers. Price, $5.



EQUISETENE IS BETTER

Than other suture materials because: (1) Never snarls; (2) No infection; (3) Many times tensile strength of horse hair; (4) Not so stiff as silk-worm gut; (5) Not so pliable as silk; better than either; (6) Uniformly smooth; (7) Can be boiled many times; (8) Very economical. Send $1.20 for two large sample packages, or $5.00 for 250 feet.

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Complete Lines of Physicians' Supplies

"NERVES"

When you have a plain case of "nerves" with the patient irritable, unhappy, over-excited, with nerves all on edge, prescribe

PENTABROMIDES

This is a combination of the five bromides in a palatable form; it is well borne by the most irritable stomach and is less apt to produce gastric derangement and bromism than the same quantity of any single bromide when given in larger doses over a long period.

Pentabromides is of value wherever there is irritation of the nerves, as in hysteria, epilepsy, insomnia, or headache of nervous origin, uterine derangements, dysmenorrhoea, menorrhagia, acute laryngitis, etc.; in fact, in all the conditions in which the bromides are indicated, its advantages over the ordinary bromides being that it is better borne by the system, is less apt to produce bromism and is much more palatable.

Prescribe as "Pentabromides Merrell"

THE WM. S. MERRELL COMPANY
FOUNDED 1828
CINCINNATI, U.S.A.

100 TABLETS FREE

ACTIVE CATHARTICS OR PURGATIVES THAT PRODUCE A WATERY STOOL DO NOT GIVE GOOD RESULTS IN

Habitual Constipation

as the digestive secretions are carried off and a period of constipation follows until the secretions again accumulate and the natural process of digestion and assimilation is resumed.

A mild tonic laxative gives the best result and you can obtain this with Cascara Comp. Tablets (Killgore's), as they stimulate the secretions, give an easy natural movement without griping and do not become ineffective by continued use.

Dose: One or two tablets at night.

100 Tablets and Formula Sent to Physicians on Request

CHARLES KILLGORE

Manufacturing Chemist Established 1874

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Atophan Gives the Patient Relief

The patient, of course, wants relief, first, last and all the time. And in no class of conditions is this more so than in the painful cases of rheumatism, gout, neuralgia, neuritis, sciatica, lumbago and migraine.

It is indeed fortunate that the physician has at hand a therapeutic remedy, Atophan, that does give relief in these cases. To the patient the relief is the patent fact. The physician, however, will realize that Atophan accomplishes a definite, scientifically and clinically established, physiologic stimulation of the uric acid excretion. Performed innocuously and controllable to a nicety by dosage and by urine and blood tests.

Information, literature and ample trial quantity will be sent to AMERICAN PHYSICIAN readers. Address: Schering & Glatz, Inc., 150 Maiden Lane, New York.

American Synthetics

The Fordney-McCumber Tariff Bill, recently passed by Congress, unfortunately does not provide sufficient protection for American-made medicinal chemicals, nor does it compensate for the extensive research work which has been done by American chemists.

The rates on medicinal chemicals were passed over the protest of the medical profession. It is now possible for the physicians to follow up their protest by using only American-made synthetics, and referring to them at all times by their American names, as suggested by the Council on Pharmacy and Chemistry of the American Medical Association.

Among the important American-made medicinals, which should receive the support of all American doctors, are Arsphenamine, Barbital, Cinchophen and Procaine. Literature on these products may be obtained by writing to The Abbott Laboratories, Chicago.

Salvarols

For the convenience of the physician who is disinclined to employ arsphenamine intravenously, The Drug Products Co., Inc., supplies this agent in suppository form under the ethical trade name of Salvarols. Numerous medical authorities have called attention to the safety, convenience and efficiency of the rectal route for the administration of arsphenamine. Salvarols, which are rectal suppositories, contain an adequate dose of arsphenamine which has been properly made under the control of the Chemical Foundation and the U. S. Public Health Service. The 606 is incorporated in a specially prepared base, which assures its being absorbed promptly by the mucous mebrane without any irritation. Since the introduction of Salvarols, the use of this form of medicament has been steadily increasing and the clinical evidence which has accumulated proves unmistakably that in presenting this pharmaceutical specialty the D. P. Co has met a long-felt want.

Salvarols is supplied in two sizes, for use in adults and children. Interesting literature, case reports, etc., will be sent free to any physician on request. Address: The Drug Products Co., Inc., 150 Meadow Street, Long Island City, N. Y.

(*Continued one leaf over*)

The Management of an Infant's Diet

Malnutrition, Marasmus or Atrophy

Mellin's Food
4 level tablespoonfuls
Skimmed Milk
8 fluidounces . .
Water
8 fluidounces . .

Analysis:

Fat . . .	.49
Protein . . .	2.28
Carbohydrates . .	6.59
Salts . . .	.58
Water . . .	90.06
	100.00

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

Mellin's Food Company, Boston, Mass.

Surprised Her Doctor with Wonderful Improvement

We offer to every physician and practitioner, ample opportunity to prove to himself and his patient, the superiority of the Philo Burt Spinal Appliance



Permits Absolute Freedom of Action

IT is because the Philo Burt Spinal Appliance is built upon sound, correct and advanced scientific, physiological principles that it is such a great success in the hands of conscientious physicians. Here is a strong proof from a doctor who, despite his knowledge of the many remarkable benefits obtained by use of our appliance, was astonished at the results attained in a fitting he made himself.

"About one year ago I secured one of your appliances for Connie B. I had not seen her for six months when she came into my office last Saturday. I was very much surprised at her improvement. The round shoulders were gone, her back was very much straighter, and her health so very much better. I thank you for your help and interest in the case. I am perfectly satisfied with your methods and appliances."

Each Order is Accepted Subject to a 30 Day Trial

It has been our privilege to co-operate with thousands of physicians, surgeons, orthopedic specialists and practitioners throughout the United States, Canada and foreign countries. We will gladly refer any physician to some of his contemporaries. We are anxious to co-operate with any local physician who has had a case under observation and will send him our Physician's Portfolio without charge and explain to him our plan of co-operation. We will make an appliance for any case and send it on 30 days' trial. We guarantee a perfect fit and refund the money if either the doctor or patient is dissatisfied. We have followed this plan for more than 20 years and have treated successfully over 45,000 cases of spinal curvature, diseases and weaknesses. **We will consider it a privilege to send you our literature.**

PHILO BURT MANUFACTURING CO., 115-23 Odd Fellows Bldg., JAMESTOWN, N. Y.

A Danger Signal

There remains no question as to the wisdom of employing suitable means to reduce hypertension and counteract or prevent it.

It is safe to regard high blood pressure always as a danger signal. It is wise always to treat it intelligently and safely by means of

PULVOIDS No. 373 NATRIUM CO.

which is essentially the famous formula of Sir Lauder Brunton, modified and proven by Dr. M. C. Thrush.

PULVOIDS NO. 373 NATRIUM CO. contain Sodium Nitrite, Potassium Nitrate, Sodium Bicarbonate, Nitroglycerin and Crataegus Oxycantha. Sugar coated white or green with a special coating to disintegrate in the intestinal tract, thus avoiding gastric disturbance.

A safe, non-toxic, effective combination which is prompt in action and prolonged in effect.

A clinical test will demonstrate its superiority and service.

Bottles of 1000 Pulvoids $5.00, direct to Physicians and Hospitals only, mailed free when cash accompanies order. Trade bottles of 100s, per dozen $9.00.

Literature, case reports, etc., free on request

If you dispense, ask for complete price list, including Endocrin Capsules and Salvarols (606 Suppositories)

THE DRUG PRODUCTS CO., Inc.

Pharmaceutical Manufacturers

150 MEADOW STREET **LONG ISLAND CITY, N. Y.**

Atophan Gives the Patient Relief

The patient, of course, wants relief, first, last and all the time. And in no class of conditions is this more so than in the painful cases of rheumatism, gout, neuralgia, neuritis, sciatica, lumbago and migraine.

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The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

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THE DRUG PRODUCTS CO., Inc.

Pharmaceutical Manufacturers

150 MEADOW STREET **LONG ISLAND CITY, N. Y.**

To Relieve Pain

The patient usually wants relief of pain; that is all that matters to him, and it is fortunate that the physician has at hand a means of relieving pain—nature's own way. Heat is our best first aid in pain and sunlight our best stimulant in convalescence.

Radiant Heat produced by the Thermolite Light and Heat Applicator furnishes this power in the most most available and effective manner. Radiant Heat and Light penetrates, as the ordinary applications of heat have not the power to.

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In considering a new remedy, physicians nowadays very pertinently inquire as to the clinical data acquired before the product is offered to the profession at large.

We understand that proposed additions to the specialty list of Parke, Davis & Co. are put through a rigid preliminary clinical test, and that it was only after a trial lasting eighteen months, during which time upwards of ten thousand doses were administered to no less than four hundred patients, that Mercurosal, the new synthetic mercurial compound, was made available by Parke, Davis & Company to the profession in general.

The distinction claimed for this preparation is that it enables the physician to inject large doses of mercury, either intravenously or intramuscularly without unpleasant sequelae; it may be given intravenously without incidental injury to the vessel walls.

The reader is referred to the announcement of the manufacturers in our advertising pages.

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The British commission appointed during the war to investigate dried milk, reported:

"When breast-feeding is impossible, dried milk is a very valuable food for infant feeding. The physical and chemical changes produced by the process used in the preparation so alter its character that it is better borne in the infant's stomach than ordinary cow's milk, whether raw, cooked or sterilized. The effect on nutrition is marked."

Nestle's Milk Food is dried milk plus cereals, malt and sugar. It is a complete food, presenting in digestible form everything that the infant needs to assure normal growth. Complimentary packages will be sent to AMERICAN PHYSICIAN readers on request. Address: Nestle's Food Company, Nestle Building, New York.

Sherman's Polyvalent Vaccines

Recovery from infectious disease is due to the development of immune substances or anti-bodies, as they are frequently called, by the defense mechanism of the tissue cells. Therefore, the main factor in preventing bacterial invasion or the development of infectious disease consists in having tissue cells adequately trained for immuno-production. Sherman's Vaccines are adequate immuno-producers.

Sherman's Vaccines are recognized antigens for destroying or digesting disease germs with which they come in contact.

(*Continued one leaf over*)

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A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

FOR

Hepatic Insufficiency, Habitual Constipation and Gall Stones

TAUROCOL COMPOUND TABLETS
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With Digestive Ferments and Nux Vomica

A remedy for all forms of Dyspepsia and Disorders of the Liver and Bile Tract

THE PAUL PLESSNER CO.
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Operative Surgery

Special course in general surgery, operative technique and gynecologic surgery given to physicians of both sexes. Enrollment limited to THREE.

First assisantship--No cadaver or dog-work

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"Sedatole" — "Linctus Comp" — "Hyotole"

three admirable demulcent expectorants of which *we are now shipping large quantities* to the drug-trade in anticipation of your urgent requirements this fall and winter when, owing to the shortage of coal, "flu," pneumonia, bronchitis, etc., are liable to occur in your practice, perhaps epidemically. If you send in for samples *please mention your Fed. Lic. No.*—this only for our records. None needed when you prescribe them; just keep records.

Ethical Expectorants

Sharp & Dohme— **Baltimore**
Conscientious Chemists since '60

Anusol HEMORRHOIDAL Suppositories

Don't decide on operation in hemorrhoid cases until Anusol Suppositories have had a conscientious trial.

The well-weighed evidence of a quarter-century stands solidly behind this advice.

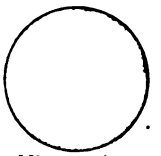
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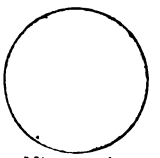
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ANTISEPTIC
LOCAL ANAESTHETIC



Microscopic photographs of Waite's Antiseptic Local Anaesthetic which is put through a pasteur filter.

You can't make up anaesthetics equal to Waite's Antiseptic Local Anaesthetic because you have limited facilities. So why try, when you can get Waite's ready-to-use anaesthetic much cheaper when you figure the value of your time.

Sold in bottles and ampules. The ampules are hermetically sealed—won't deteriorate — will keep indefinitely. Are ready to use.



Microscopic photograph of home-made local anaesthetic solution made from a tablet.

ANTIDOLOR MFG. COMPANY
32 Main St., Springville, N. Y.

Send for Free Sample

Let your own experience prove the superiority of Dr. R. B. Waite's Local Anaesthetic. Send us the coupon with your professional card and we will send you a generous free sample box for your own tests.



Check, Sign and Mail This Coupon

ANTIDOLOR MFG. CO.,
Springville, Erie County, N. Y., U. S. A.

Attached find my professional card. Please send me free sample box of Waite's Antiseptic Local Anaesthetic in ampules, which I agree to carefully test.

Name_____

Address_____

It was through the scientific study of immunization and the experience gained in producing bacterial vaccines that the Sherman Laboratories have found that heat sterilization decidedly impairs the efficacy of bacterial vaccines. A method of chemical sterilization has been developed which insures for Sherman's Vaccines a uniform content of unchanged bacterial protoplasm so essential for adequate immuno-production. For interesting literature address: The Laboratories of G. H. Sherman, M.D., Detroit, Mich.

Clinical Results Prove It Effective

Pluto Water has been successfully employed and endorsed by many able clinicians as a uric acid solvent and eliminating agent in renal disorders. It is prompt, safe and efficient and is well retained by the most delicate stomach.

In cases of habitual constipation, gout and rheumatism, the clinical evidence proves the most satisfactory results are to be obtained by prescribing Pluto Water. Many practitioners direct convalescent patients to the spring for rest and complete treatment. Pluto Water is bottled from the famous spring by the French Lick Springs Hotel Co., French Lick, Ind.

A Normal Element of the Diet

The entrance of bran into the national diet is directly traceable to the modern methods of living, which Dr. Harvey W. Wiley accredits to "the exigencies of modern business and recreation." Dr. Wiley deplores the prevalence of careless habits in cleansing the human system and recommends bran as one of the food adjuncts which should be used at home to correct the evil. "Bran is a normal constituent of cereals," he states. "It carries particularly one of the health factors, or vitamines, namely, the one soluble in water. It is particularly rich in minerals which are normal and necessary. Bran, therefore, tends to restore the natural functions of the intestines, which have become impaired by reason of a too concentrated diet."

Dr. Wiley does not stand alone in thus recommending bran; more and more physicians generally are coming to realize its value as a part of the everyday diet, and are recommending its use.

Kellogg's Bran is the product generally used and recommended by physicians because of its purity, cleanliness and its distinctive savory taste—it is not only easy to take, but delightful. A large package of Kellogg's Bran will be sent complimentary to AMERICAN PHYSICIAN readers. Address: Kellogg Toasted Corn Flakes Co., Battle Creek, Mich.

Hormotone in Menstrual Disorder

A large proportion of the patients treated in a physician's practice are women suffering with some derangement of menstrual or generative function. These disorders are due in a large measure to diminished or disturbed function of the glands of internal secretion. Owing to the reciprocal relationship that exists between these glands, a functional disorder of them is, in its last analysis, always a pluriglandular disturbance—never a monoglandular malady.

It is now recognized that pluriglandular combinations give better results than single gland products.

(Continued one leaf over)

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Drug Addictions **Alcoholism**

Treated by the *"Quayle Method."*

A safe and easy way. Results guaranteed. Treatment is painless and supportive, rather than depressant. No nervous period experienced. I also furnish a *Home Treatment* for Physicians to use in treating addicts at home, who for various reasons are unable to go to a Sanitarium.

For full particulars address

DR. QUAYLE SANITARIUM

Chas H. Quayle, M.D., Medical Director

Dept. 505 Madison, Ohio



Fur Lined Overcoats

Black wool kersey cloth, lined and collared with dark brown marmot fur, sizes 36 to 46; while they last these handsome garments will be sold at half price,

$42.50

Regular Retail Price, $85.00

SENT FOR EXAMINATION

Write at once. State chest measure over vest, height and weight. Enclose $1 for expressage; coat will be forwarded at once.

E. HART, Fur Dept.
518 West 134th St., New York

Trade Mark **STORM** Trade Mark

Binder and Abdominal Supporter

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For Men, Women and Children

For Ptosis, Hernia, Obesity, Pregnancy, Relaxed Sacro-Iliac Articulations, High and Low Operations, etc.

Ask for 36 page Descriptive Folder

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To ALLEVIATE PAIN, to PROMOTE DIURESIS and to PROTECT the membrane of the urethra, especially THE POSTERIOR PORTION—these are the important objects of the treatment of acute cases of Gonorrhea.

The entire urinary tract should be influenced by means of proper internal medication. Local injections alone will not be sufficient.

This is the rationale of GONOSAN.

RIEDEL & CO., Inc.

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Strictly Starch-free. Produces Bread, Muffins. Pastry that makes the distressing features of

DIABETES

Grow Less and Less

Listers prepared casein Diabetic Flour—self rising. A month's supply of 30 boxes $4.85

LISTER BROS. Inc., 405 Lexington Avenue, New York City

A Stand-By in Uterine Troubles

VIBURNO

(BEACH)

The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles

Sample and Formula on Request

THE VIBURNO COMPANY

116 Maiden Lane, New York

Clinical results emphasize this. Hormotone is usually effective in these cases. Where there is a tendency toward high blood pressure use Hormotone without Post-Pituitary.

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A Beneficial Spray and Gargle

The stinging pain and distress that attend the congestion of acute nasal colds can be promptly relieved by spraying the nasal passages every hour or so with a solution of Pond's Extract—one or two tablespoonsful to a half glass of warm water. And used quite hot, this is also an excellent gargle for tonsillitis and sore throat.

Yeastone for Medicinal Use

Yeastone offers the purified active principles and vitamines of yeast, and is reliable, pleasant to take and keeps well.

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A strictly private and ethical Home Retreat for unmarried girls and women during pregnancy and confinement, with best medical care, nursing and protection. A home found for the infant by adoption if desired. All publicity avoided. Prices reasonable. For particulars, prices and terms, address WOODLAWN, OWEGO, Tioga Co., N. Y.



Sal Hepatica

THE STANDARD SALINE LAXATIVE

Samples on request

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GRIFFITH'S COMPOUND MIXTURE

of Guaiac, Stillingia, etc.

A Powerful Alterative—Composed of Guaiac, Stillingia, Prickly Ash, Turkey Corn, Colchicum, Black Cohosh, Sarsaparilla, Salicylates of the Alkalies, Iodide of Potassa and other well known remedies, combined in such a manner that it is tolerated by all patients suffering from Rheumatism, Gout, Lumbago, Neuralgia, Sciatica, etc.

Prescribe it for "That Stubborn Case"

To Physicians only—we will upon request, send a regular eight ounce bottle ($1.25 size), for trial, upon receipt of 25 cents for express charges.

Griffith's Rheumatic Remedy Company

Newburgh, New York

Pond's Extract- -- Tonsillitis

Few remedies are so dependably useful in relieving the acute discomfort and pain of *Tonsillitis* as Pond's Extract. Used as a gargle every hour—a tablespoonful to a half glass of hot water—its effects are prompt and gratifying.

POND'S EXTRACT CO., NEW YORK AND LONDON

REGULIN

Presents a new principle in the conquest of chronic constipation that of treating the bowel contents rather than the bowels themselves. Corrects the physical condition of the intestinal mass – restores its normal bulk and softness—and the bowels resume their natural functioning. REGULIN is a true bowel corrective.

You can buy with Confidence—See "Service Guarantee to *Readers*" on page 830

DON'T SEND THE POOR FELLOW AWAY, DOCTOR!

EVERY DAY doctors are advising a rest, a trip to a sanitarium, a visit to a specialist, an operation—anything to get rid of their old, stubborn cases of

Prostatic Disease and Impotence

Maybe you are doing, or are about to do this very thing. You are losing possibilities of dollars and prestige, *to say nothing of the satisfaction of having won a hard fight.*

Too many of these cases are passed up by good doctors, only to fall into the hands of unscrupulous men who offer nothing but promises and frequently give less.

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AN INSPIRING PAPER; A FITTING CLIMAX TO DR. FORBES' NOTABLE SERIES OF CLINICS. (*page 863*)

The Etiology of the

Symptom Complex Called Asthma

IS ASTHMA A DISEASE OR A SYMPTOM? (*page 857*)

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EXTERNAL MECHANICAL SUPPORTS SHOULD ALWAYS BE GIVEN A LONG TRIAL BEFORE SURGICAL MEASURES. (*page 859*)

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THE CRITICAL AGE

The menopause is not due simply to insufficiency of the genital glands, but is the expression of an "endocrine crisis" complex, varying in different persons, of which the said insufficiency of the genital glands is the central factor, but, with it, other glandular disturbances play an essential part.—*Maranon.*



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The American Physician

Vol. 27 December, 1922 No. 12

The Professional Difficulties in Group Practice

Only Seasoned Specialists Are Qualified to Succeed

SMALLER COMMUNITIES BETTER SERVED BY COMMUNITY HOSPITALS

ETHICAL relationships, as appeared in a previous paper, are necessary to success in a group-practice undertaking, whether viewed from the professional, human or business standpoint. This being conceded and that skill is equally important, it is not necessary to discuss these primary matters here. But there is a professional consideration to which attention must be drawn.

A group clinic will not succeed unless the members composing it are, each of them, *real specialists*. When a number of middle-aged practitioners start a group clinic in the expectation of becoming specialists through, one at a time, taking short post-graduate courses, failure stares them in the face. After a man has practiced general medicine for fifteen or twenty years a three-months' course will not make a true specialist of him. The profession is overcrowded now with that sort of so-called specialists. After a physician is forty years old or more he has certain handicaps to overcome to become a specialist in the modern sense; he fails to let go of the past, and to grasp the recent conceptions as younger men do. To make a specialist of such a man takes one full year of college work in the diagnostic and medical specialties and two years in the surgical ones; and to this must be added a year or two of *practice* as a specialist. This may not parallel the views of some gentlemen, but those most competent to judge from actual experience in teaching the specialties will, most of them, agree.

So, then, if a number of you aim to start a group clinic without being already seasoned specialists, take our advice and give up the project. This opinion is based on considerable observation, and while discouraging it is sound. Even if you are specialists, do not fill up your group wholly with middle-aged men.

Very Hard Work

Don't forget that group-clinic work is most exacting and is wearing from the professional point of view and is hard work from any angle. Your *individual* profit is less than with a similar number of cases wholly your own, and as a consequence you must see more patients in a day than you are accustomed to examining if you keep your income on the old basis. Most men who enter such work fail to realize that the fees are divided among several, and the consequence is that they must do considerable work in their private offices when already wearied from their hours at the group clinic and their regular outside visits. There is considerable professional satisfaction in well-done group clinic activities, but one can't get away from the fact that it involves considerable strain and more work than you are accustomed to doing.

People expect more in a group clinic than they do when consulting a physician in his office; they view the clinic somewhat as they do a dinner served in courses and expect all of the trimmings, from soup to ice cream, nuts and coffee. A physician cannot get away from individualism, even in a group clinic. There are several physicians in the group; each an individualist, only they are doing team work for the time being. No cheap labor is working making money for you, as might be the case were you running a factory; you still must make your own fees by skilled personal professional service. It is all very wearing and is hard work, especially when you have the constant *worry* of making the *heavy overhead*

of the establishment in addition to your professional work.

In the Large City

Certainly not over ten to twenty per cent. of cases of illness need the services of a group clinic; it is the chronic and involved cases that are available, and there must be a *large population* to supply a sufficient number of these cases to justify the establishment of a clinic. In a large city there is an actual field for such a clinic, seasoned specialists are available to man the work, and there is apt to be sufficient money among them to carry on such a project without undue financial strain. Under these conditions there is no reason why group clinic work should not be a very satisfactory line of activity to the staff member.

In the Small Community

Here conditions are very different, the difficulties having been already set forth in a previous paper. Many physicians in small places have suffered *heavy losses* through the breaking down of group projects. From some considerable observation it impresses us that the logical plan to meet the needs of the small places and rural districts is the establishment of community hospitals. We have in mind one such of only eight beds in a town of 1,500 people, yet it is well equipped and is doing splendid work. The money was raised by the community itself, which is full of enthusiasm over the work. Practically everybody in town feels that "Our Hospital" is a fine thing. We talked with the physicians in the place and they are much relieved that now they have a proper place to take cases for special examination, laboratory diagnosis and ward treatment. Good surgical work is done, the minor cases being handled by local men and involved cases by surgeons called from the city, twenty miles away. The writer wants to go on record in hearty commendation of the community hospital idea for the small place as against the group clinic. —T. S. B.

What of That Persistent Rheumatism?

FOCAL INFECTION may or may not account for a persistent arthritis. There is a tendency to forget this fact in the search for foci. It is a mistake to sacrifice teeth or undergo surgical procedure, in the absence of definite diagnosis or surgical indication, on the assumption that through some mysterious influence a persistent rheumatism will be cured. This matter has been overdone, as many of us know who have under care persistent cases of rheumatism that have been "focused" without result.

Personal hygiene has a vast bearing on this subject. Insufficient clothing is responsible for many cases of myalgia and for some acute attacks of arthritis. Bad housing—dark rooms, poor ventilation, leaking sewer traps or gas pipes, damp walls and cellars, and especially living on a ground floor with no cellar under it—is a large factor. Wet feet neglected, lack of sufficient exercise to promote skin action, neglected constipation, heavy eating, too much coffee or caffeine-bearing soda drinks, using tobacco in excessive amount, or an improperly balanced diet, all may be factors in producing and maintaining a persistent rheumatism.

The Newer Drugs

There is a tendency to decry the use of drugs in the treatment of rheumatism. This is unwise, and especially to be deprecated is the neglect of the old drugs in favor of the newer ones. These newer drugs have advantages and disadvantages. Acetyl-salicylic acid undoubtedly relieves the pain of rheumatism more effectively than does sodium salicylate, and as long as it is kept up the patient may get along fairly comfortably; but it does not eliminate as well as does sodium salicylate and is more depressing than the latter drug. The combination of sodium salicylate, colchicum and cascara is unequalled as an eliminant in rheumatism. Try this on a case that becomes very uncomfortable soon as he drops the use of acetyl-salicylic acid.

Some of the Old Drugs

In chronic cases in which the salicylates appear to have little value, medication with iodides may be quite effective provided the dosage is heavy enough. Here, too, cascara combines well with the more potent drug. Some physicians believe that cascara has some specific action in rheumatism, and sometimes we have felt inclined to believe that this is true. With the cascara may be combined small doses of bryonia, being careful not to give enough to elicit its drastic and irritant effect.

The now all but obsolete plan of giving quinine and blue mass in chronic rheumatism is being revived by some discriminating clinicians. Just why these drugs should be effective in such conditions does not appear very clear, but it is a fact that they oftentimes clear up an old case most beautifully. Some physicians who employ this treatment insist on a purely milk diet for a time, giving milk in large quantities.

The old vegetable alteratives, especially phytolacca and stillingia, may be combined with more active drugs often with marked advantage.

Don't conclude there is nothing to do in a case of persistent rheumatism, except keep on hunting for the elusive "focus," as long as the above suggestions are available. Perhaps there is no focus to find.

Use of Opium in Influenza and Tuberculosis

EXPERIMENT PROVES NON-MEDICINAL MEASURES MORE IMPORTANT THAN NARCOTICS

DR. JOHN DILL ROBERTSON, former Commissioner of Health in Chicago, interested in statements made in a meeting of the Morals Commission by physicians from various sections of the country who testified to certain facts concerning drug addiction, in 1918 ordered an inspection of druggists' prescription files in Chicago and ascertained that nearly a fourth of the prescriptions for influenza contained narcotics, as follows: chloral, 3,866; opium, 17,504; morphine, 10,003; codeine, 50,081; heroin, 17,812; cocaine, 1,383; other, 3,331; a total of 103,980. Such use of narcotics, it was contended by able sanitarians, is dangerous, some of them going so far as to say that to give opium in influenza was to invite pneumonia. Clinicians do not go that far, but very able clinical authorities are very conservative in recommending opiates in this disease. That all sanitarians did not view the matter in the same light was testified to by the fact that the Government relaxed the narcotic regulations during the influenza epidemic of 1918-'19.

In December, 1918, Dr. Robertson, as head of the municipal tuberculosis sanitarium, which treats over a thousand patients a year, issued an order to discontinue the use of narcotic drugs in the institution in the treatment of the symptoms of tuberculosis, and for three years after that none was used. This order was designed to prevent inmates from becoming drug addicts and to prove that, if physicians studied hard and took trouble with individual cases, narcotics are not necessary in meeting these symptoms.

What Happened

For the first few weeks the patients, accustomed to their narcotics, suffered much general distress and coughing was intensified. The attending physicians were up in arms against the order; but in due time matters improved and most of the patients seemed to get along very well without the opiate medication. Meanwhile the staff was busy devising substitutes, with the following results, which are very suggestive in general practice. Extensive use was made of hot packs and baths, massage, fixation with plaster casts, adhesive plaster splints, dietotherapy, heliotherapy, etc.

Cough

Patients were taught how to cough with the teeth tightly closed and this had a good effect. Drugs used were cannabis, dilute hydrocyanic acid, lobelia and chloroform, always in suitable mixture.

Hemorrhage

Nervousness and restlessness were allayed by psychotherapy and this was thought to reduce the incidence of hemorrhage. Drugs used were thromboplastin, emetin, amyl nitrite, and horse serum.

Diarrhea

Colonic irrigations and proper diet were effective in the great majority of cases. The proper diet for each case was made a study. Drugs used were bismuth subgallate and subnitrate, betanaphthol, kino, gambir, etc.

Pain Due to Laryngitis

The prone, face-down position gives relief, and in this position liquid diet can be taken through a tube. Heat and cold, the ultra-violet and the X-ray, and reflected sun rays were used to relieve the distress. Drugs used were phenol and menthol oily sprays, alcohol injections along the recurrent laryngeal nerve, and insufflations of orthoform and anesthesin.

Pain Due to Pleurisy

Fixation by strapping of the chest, in the absence of effusion, was used, as well as local applications. Benzyl benzoate and lobelia were used when the pain was due to smooth-muscle spasm.

The Results

The principal thing proved by the experiment conducted under Dr. Robertson's orders is that non-medicinal measures are more important than are drugs in the treatment of tuberculosis; and the second thing grows out of it, that is, if the physician is denied the use of narcotics in handling these cases he is forced to use the non-medicinal measures that might be neglected if he depends on the use of opiates to keep the patient comfortable, thus accomplishing better results; and not so much by denying a possibly harmful drug as by actually using something better.

The experiment does not prove that, aside from escaping the incubus of a drug addiction, the advanced or even definitely developed case of tuberculosis lives any longer without opium than with it or that the mortality rate is reduced by omitting narcotic drugs.

Some Comment

While cordially in agreement with the main contention of Dr. Robertson, especially as to the value of non-medicinal measures and the effectiveness of the drugs noted in meeting *most* indications heretofore met with opiates, we venture a word of comment.

Cough may induce hemorrhage in tuberculosis; it may seriously embarrass a weak heart, and it may make the terminal stage of the disease exceedingly distressing. Ordinarily narcotics should be avoided, but in the conditions noted above their use may be entirely justified. It is our opinion that small doses of codeine, even though long used, will do less harm than will cannabis, lobelia, chloroform or hydrocyanic acid. Codeine rarely induces an addiction, and it is effective in the cough of tuberculosis if the case is not spoiled by first using morphine or heroin. The latter drug, we feel, should not be resorted to and morphine should be avoided except in the presence of serious cardiac lesions aggravated by cough.

The ordinary hemorrhage in tuberculosis does not require the use of an opiate, the remedies suggested by Dr. Robertson serving every purpose; but we see alarming hemorrhages with the patient wrought up and exceedingly nervous, and in such cases we would hesitate in denying a hypodermic dose of morphine as an emergency measure. It is also true that the ordinary diarrhea, just as in other diseases, does not justify the use of an opiate; but when a diarrhea gives rise to intense pain nothing serves the purpose of relief as does a dose or two of an opiate.

Then, too, take an acute pleurisy arising in the course of tuberculosis, an opiate may be urgently indicated. Laryngeal cases have persistent pain that is relieved only for a time by opiates unless given in ascending dosage, and orthoform or other anesthetic agent may be preferable to morphine.

It is, unfortunately, the case that many physicians, regarding tuberculosis as an incurable disease, are too free to start their patients on opiates, masking the symptoms and neglecting the non-medicinal measures so useful in all cases. Many of these cases would recover under proper treatment.

No one knows better than the writer how opiates are abused, as it is his duty to enforce the narcotic laws in Pennsylvania; but he fails to see why a serious disease like tuberculosis should be made the shining mark for a no-narcotics propaganda that is lived up to despite the condition of the patient. If it is necessary, or logical, to do away utterly with narcotics in the treatment of tuberculosis it is equally logical to do away with them in nearly all other diseases. Who is to draw the line? Then, too, think of the patient! Let us not be extreme with our propagandas.—T. S. B.

Coming

Turn to pages 874, 5, 6, and 7, further over in this issue. Here you will find the annual announcements for the coming year.

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We are with *you* and after reading this announcement we know you're going to say—"And by the eternal I'm with them. The 'A. P.' is one journal I simply can't do without." Turn *now* to pages 874, 5, 6 and 7.

Infectious Diseases a Combination of Units

L. PANETH, in one of the German medical journals, differentiates between the systemic and local processes in diphtheria, the former yielding to antitoxin but the latter streptococcic local sepsis requiring separate treatment. He asserts, therefore, that the problem of diphtheria is not as simple as many assume it to be. Furthermore, he asserts that infectious diseases are seldom pure units, but represent a combination of biologic units.

Some years ago this journal presented an editorial entitled "Tuberculosis Plus," taking the view that Paneth now enunciates. Experience has served to confirm us in the view that mixed and cross infections are common, not only in tuberculosis, but also in other infectious diseases.

We apprehend the matter to be of importance in clinical medicine and occasion is here taken to emphasize the point that so-called specific treatment has distinct limitations, the at-present neglected symptomatic medication being required in many cases, and, as well, a case-management involving several factors. Certainly we see this matter constantly illustrated as regards syphilis.

The so-called complications of measles, scarlet fever, etc., may not be complications, as such; they may be manifestations of a combination of biologic units producing an illness that must be viewed *in toto* and not as a complicated case of some infectious unit.

All of this tends to confirm the older school of clinicians in the view that we are treating diseases too much and sick people too little.

Advertising Standards—"A Service of Truth, from Cover to Cover"—page 904

The following papers are contributed exclusively to this journal. Republication is permitted if credited as follows: AMERICAN PHYSICIAN, Philadelphia.

Original Articles

Sentences, like sunbeams, burn deepest when most condensed

We are not responsible for the views expressed by contributors; but every effort is made to eliminate errors by careful editing, thus helping the reader.

Early Diagnosis of Tuberculosis in Children

EARLY DISCOVERY IS OF THE GREATEST BENEFIT, FOR AT THIS STAGE MUCH CAN BE DONE IN PREVENTION AND TREATMENT

By J. ROSENTHAL, M.D.,
1001 Stroh Building, Detroit, Mich.

Essential Points in a Brief Paper

To write a voluminous treatise on the early diagnosis of tuberculosis in children is usual and natural. To write a short paper on such an extensive subject and still cover the vital essentials of this common disorder is an achievement worthy of note. Dr. Rosenthal has accomplished it—and accomplished it remarkably well.—EDITORS.

MY EXCUSE for presenting a subject so extensively written on and discussed in the past few years is that I consider it one of vast importance to our future and the general well being of our communities. Our present knowledge of its treatment and prevention depends so much on its early discovery that all our efforts are expended in means to that end.

No one method of examination can give definite enough data to make a positive diagnosis in its early stages, but it is necessary to use every means at our command, and to take results as they appear and consider them as spokes in a wheel, the whole to give us a working basis from which to draw conclusions. Even then there is opportunity for error.

History

No attempt for diagnosis in this condition should be made without taking a careful history, especially for any possible exposure to open tuberculosis. The mere fact that one or both of the parents, grandparents, uncles, aunts, or any other member of the family may have had tuberculosis means nothing except in so far as there is a chance for exposure to infection. Many cases may be traced even to visitors or perhaps moving into a home in which there has been a case of tuberculosis. Again I say, much information may be obtained by careful and painstaking questioning, and we cannot go too deeply into this.

The past personal history may give us much information. The child may have always been a weakling easily infected with all the prevalent diseases. May have had measles, whooping cough, etc., and never fully recovered. The whole trouble may be traced to a pneumonia in which the cough never fully left. It is quite common following whooping cough and measles, and when you have a history like this you may be justified in suspecting tuberculosis until you can satisfactorily explain the condition as due to something else.

Present Condition

When you have this information you may now look to the present condition. Is the child weak? Has he lost his "pep"? Does he cough? Does he run an elevated temperature especially in the afternoon? Is he easily exhausted? Does play make him feverish? Has he lost his appetite? Is he getting thinner? These are some of the questions, if answered affirmatively, would naturally make one suspect tuberculosis.

Physical Examination

As to the physical examination much can often be obtained, and frequently there may be grave pathology with no physical signs. The size and shape of the chest may be abnormal, there may be lagging of motion on one side. The general contour of the child's body may be thin, scrawny, pale, weak and undernourished, yet a plump, well-nourished, healthy-looking child may have tuberculosis. You will, in all

probability, have some enlargement of the cervical lymphatic glands.

Auscultation and percussion may give us nothing, but in some cases we may find areas of impaired resonance, prolonged expiratory murmur, and a few inspiratory rales. On this latter I lay more stress than on either of the other. Tubercular rales are almost always inspiratory and persistent, that is, they do not disappear on coughing. In percussing, do not forget that in childhood most areas of infection are in the mediastinum, and in some cases can be found on percussing along the spine between the scapulae. If you find intrascapular dullness down to the fourth to seventh cervical vertebra, and if in this area you get on ausculation a whispering prolongation of the vocal resonance, D'Espin Sign, you may be assured you have mediastinal pathology and probably tubercular. But don't get the idea this is always the case. On the other hand, you may have tubercular lesions in the mediastinum, and this fairly well pronounced, yet get a negative D'Espin Sign. One thing that will show up in these cases is inspiratory rales, especially if there is an active lesion.

What I am especially trying to make clear is, that from the standpoint of physical examination alone, lesions of tuberculosis in their early stages are easily overlooked, and even after very careful, repeated, painstaking examinations nothing definite may be found, or signs may be found that will lead us to make a diagnosis of tubercular lesion, and on further investigation prove to be non-tubercular.

X-Ray

X-ray is a valuable aid in our diagnostic routine, yet too much reliance cannot be put on this alone. The more experience I have with their interpretation by men whom I know are skilled in reading plates, the less reliance I can put in their reports. Two men, both skilled, may read the plate differently. A great deal of help can be given to our X-ray confrères, and in this way get more satisfactory results, if we go over with them, at the time of the reading, what we have found on our examinations, together working out the information shown on the plate. It is also advisable to take both anteroposterior and lateral views of the chest. We can in this way get a more satisfactory view of the relation of any pathology found.

There are cases of tubercular chest infections, especially active ones, in which the lesion or lesions are too small to throw a shadow and will entirely escape the picture. There are cases, though, in which the picture is so characteristic that all may see, skilled or unskilled; but these cases usually have such well-marked physical findings that all our picture does is to corroborate them.

Tuberculin Tests

We now come to tuberculin tests, which, to my way of thinking, are the most positive diagnostic method we have. If one gets a positive tuberculin reaction, either from a Pirquet, intradermal, or subdermal method, we may rest assured there is some focus of tuberculosis somewhere in the body. Whether it is an active process or not is not the question. But, on the other hand, if the tuberculin test is negative, in a small proportion of cases it does not mean that a tubercular process is not present, depending a great deal on what method of test is made.

I do not wish, at this time, to go into a lengthy discussion on the merits or demerits of any of the various methods of making tuberculin tests, but simply state that for universal use in all ages and forms of tubercular infections, in my experience, the intradermal test has proven the most satisfactory, and I feel fairly confident that if it proves negative or very faintly, questionably positive. I can rule out tuberculosis, that is, if I have been true in my technique, and have done it repeatedly with different strengths of tuberculin dilutions.

Recapitulation

Now let me recapitulate. If you have a child at any age who shows symptoms of lack of "pep," poor appetite, tires easily, with or without a cough, with or without an afternoon temperature, always weak or may seem fairly well nourished, a history of some possible exposure to infection, some cervical gland enlargement not necessarily large in size, perhaps just palpable, and with or without demonstrable chest involvement especially in the mediastinum which may or may not be proven by X-ray, and you get a positive intradermal tuberculin reaction, either to 1-1000, 1-500, or 1-100 dilution old tuberculin, or if these prove negative I use the same in bovine tuberculosis, you may suspect and feel confident that this child has tuberculosis. But as to the severity, activity, etc., that is another question, and one which requires prolonged study of each individual case with the exercise of good judgment. All information obtained must be considered in its correlation of each with the other, and your final and honest opinion given. If you yourself have been honest with your reasoning you have done all that can be asked of you. The best of us make errors in judgment. I make it a rule in these cases, if I feel confident there is tuberculosis and I suspect an active process, I treat it as active. If my judgment has been in error, I have erred for the child's good and will be doing more good than harm.

If, in this short article, I have impressed upon you the importance of not overlooking any possible tubercular case, and if I have impressed on you the importance of the necessity of correlation of all symptoms, physical signs, X-ray pictures, and tuberculin tests, and even then the possibility of error, so that you may not be discouraged when you fail to find a tubercular infection easily, I have accomplished its mission, and perhaps renewed your interest in this important subject, and helped you to diagnose it early when so much can be done for it.

A Radically Different View of
CANCER THERAPY

Is There a Cancer Therapy Which Yields Far Better Results Than Surgery, X-Ray or Radium?

THE FIRST OF TWO BRIEF PAPERS GIVING AN INTENSELY INTERESTING AND VERY DIFFERENT POINT OF VIEW OF THIS SUBJECT

By L. DUNCAN BULKLEY, A.M., M.D.,
5 East 53rd Street, New York City.
Senior Physician to the New York Skin and Cancer Hospital, Member of the American Society for Cancer Research, etc.

Another Side of the Question

This paper presents another side of this imperative question. Dr. Bulkley says: "Inasmuch as thorough, rigorous and prolonged dietetic, hygienic and medicinal measures yield such far better results, is it not wise for the profession and laity to give heed to the signs of the times?"—EDITORS.

IS THERE NO cancer therapy except the knife, X-rays, and radium? This question is continually asked, but surgical dominancy answers "No," while dozens of physicians, and some surgeons, answer "Yes, and one which yields far better results." Which are right?

Cancer Must Have a Cause

Everything has a cause, and cancer can be no exception. Deaver[a] says: "The nature of carcinoma is unknown." Speaking of laboratory researches, he says, "a generation of workers have labored, with great industry, intelligence, and patience, and a mass of information has been collected, but when it is carefully sifted out we find ourselves very much where our forefathers were, so far as any clear idea of the cause and nature of cancer are concerned. But what is most disappointing, we are precisely where they were, so far as treatment is concerned. All that they knew was that the proper thing for cancer of the breast was to remove it. All that we know is to remove it. We do it with less pain than they, thanks to the anesthetist; we do it with greater safety than they, thanks to antiseptics and asepsis; we do it with less probability of return than they, thanks to better technic, but we still do nothing to cure it." All surgeons are not as honest as Dr. Deaver, but in their hearts they know that this is the truth.

And so the surgeons go on, as they always have done, cutting out the products or manifestations of a disease of which they profess to be totally ignorant, which is quite as sensible as it would be to thus remove surgically the manifestations of gout, tuberculosis, or late syphilis, without rectifying the real cause of the lesions. Latterly they have added X-rays, radium, thermo-therapy, and the older methods of caustics, but still leave the cause of the carcinosis unchecked, which produces recurrences again and again till the patient dies, not from the local lesion, as they regard it, but from the continuance and increase of the systemic or constitutional condition which was the basic cause of the first mass, and reproduces others.

Proofs of the Constitutional Nature of Cancer

Time and space do not permit of elaborating here just what elements are concerned in the production of this carcinosis, which have been abundantly presented elsewhere,[1] so that he who runs may read, if only he would. The proofs of the constitutional nature of cancer have been presented before scientific societies,[2] and not a word has been raised against them, only surgeons have said they did not believe in them, and that they had cured cancer by surgery, but whatever may be said of individual cases it cannot be gainsaid that all surgical efforts have not sufficed to stay the alarming increase in the mortality of cancer, which has risen over 30 per cent. since 1900, under surgical dominancy, while under wise medical direction that of turberculosis has fallen 43 per cent.

It may be well to present some of the reasons for the lamentable condition in which carcinosis stands today as a disease, and the ultimate results of its treatment; they are briefly as follows:

1. The glamour of surgery, and latterly of X-rays and radium, and the craze for immediate and spectacular apparent and temporary results.

a—Deaver, MacFarland and Herman: The Breast and Its Its Anomalies, Phila., 1917, p. 476.

[1] Bulkley. Cancer and its Non-Surgical Treatment. New York, 1921.
[2] Bulkley. Proofs of the Constitutional nature of Cancer. New York Medical Journal, July 20, 1921.

2. The claim of surgeons as to the success of operations, and the failure to investigate and report results after the lapse of years.

3. The results of laboratory and research work, wrongly supporting surgeons as to the local nature of cancer, and advocating the desirability of the immediate removal of the results or products of carcinosis, now called cancer.

4. Ignorance on the part of the general medical profession as to the true facts concerning cancer.

5. The many fake cancer cures which have been foisted on innocent sufferers, together with the many failures of remedies and measures which have been advocated by the regular medical profession.

The proofs of the constitutional nature of cancer fall under four heads: 1, Laboratory findings, negative and positive; 2, Statistical evidence; 3, Biochemical evidence; 4, Clinical evidence.

1. The laboratory and experience have shown that cancer is *not* parasitic, is *not* contagious *nor* infectious, and is *not* hereditary, but that cancer cells are but altered, normal body cells. In other words, the mass which is called cancer consists of body cells, once healthy, which have thrown off their allegiance to normal, physiological control, and, leaving their natural function of secretion, etc., have expended and continue to expend their whole energy upon growth, which we call malignant because of the ultimate harm observed to result from their action. They are like mutinous soldiers[1] rebelling at the quality or quantity of food furnished, for the cells get their pabulum or nutriment from the blood, which is replenished by food; when all the dietary and systemic errors are corrected the rebellious cells return to their allegiance, as would the soldiers, if an intelligent and sympathetic officer removed all their causes of complaint.

Not a Local Disease

The late history of cancer, especially of recurrent cancer, should be sufficient to convince anyone that it is not a local disease, although it may be granted that the first external manifestation of the "neoplastic diathesis," as a great Frenchman once called it, may occur from a local irritation, even as a gout may be first recognized when the great toe is stepped on, a late syphilitic gumma develop in the site of an injury, etc. etc. But how any rational human being who has watched the whole course of many cancer cases, till death, as some of us have, can think or believe that cancer, as a disease, is a local affection, is very difficult to comprehend. None so blind as those who will not see, none so deaf as those who will not listen attentively and heed what is said. There is plenty of evidence in literature of those who knew cancer well in regard to its systemic nature, dating back to the great English surgeon, Abernethy, who over a hundred years ago wrote strongly of the constitutional nature of cancer and of the value of a vegetarian diet. Ever since that time there have been men of prominence, including Walshe, Lambe, Sir Astley Cooper, Sir James Paget, Dr. Hughes Bennett, Dr. Willard Parker, Sir Arbuthnot Lane, Dr. Robert Bell, Dr. Forbes Ross, Dr. John B. Murphy and even Dr. Wm. J. Mayo, who have expresed such views, often very strongly, in support of the constitutional nature of cancer. The latest is Sauerbruch, the famous German pioneer in thoracic surgery. He is reported as saying, "Cancer is the local manifestation of a constitutional disease. We must go back to the humoral conception of life. Virchow, who on a solidistic basis, taught that all the constitutional manifestations of cancer were secondary to the local lesion, is shown to be wrong, and that the old humorists are in line with modern progress." If medical literature were more studied and assimilated and acted upon, there would be fewer mistakes made in regard to cancer, and its mortality would be reduced, instead of constantly rising.

Surgery, X-rays, and radium have undoubtedly been of some temporary benefit in some cases of cancer, but they have also done much harm, as all of us who are seeing much of the disease can testify. And inasmuch as thorough, rigorous and prolonged dietetic, hygienic and medicinal measures yield such far better results, is it not wise for the profession and laity to give heed to the signs of the times?

[1] Bulkley. Cancer a mutiny of body cells. Med. Record, Oct. 1, 1921.

SECOND PAPER

The second of these two brief but intensely interesting papers will be published in the January issue. Keep it in mind or make a memo. so you will be sure not to miss it. The importance to the general physician of being fully cognisant of this radically different view of cancer therapy need hardly be stated.

Infant Feeding

E. G. Padfield *(Jour Kan. Med. Society,* April, '22), emphasizes the importance of starting the baby properly. If you can so regulate the child's diet that you have a healthy child at two years of age with no digestive trouble, this same child will continue to advance and be healthier and less likely to the ordinary troubles of childhood than the child not so taken care of in the early period of its life.

The Etiology of the Symptom Complex *Called Asthma**

By Henry I. Leviton, M.D.,
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What Is Asthma?

Is asthma a disease or a symptom? Is it caused by a food, pollen or micro-organism? Is an asthmatic a tubercular or a tubercular an asthmatic—is it one or the other; if neither, what is the relation between them? All these questions are thoroughly discussed in this paper, a paper on a disease which has puzzled and is still puzzling the medical profession as to its etiology, pathology and treatment.—Editors.

THE ETIOLOGY of asthma, particularly its relation to tuberculosis, has been studied by the most eminent students of the respiratory diseases, even long before tuberculosis became a definite disease entity.

The opinions expressed on the subject by all those students, especially on the relation of asthma to tuberculosis, are so contradictory, that one is actually confused, and is at a loss to form a definite opinion.

On a perusal of the literature on this subject, it occurred to me that of late certain definite principles are being worked out, principles leading to an intelligent and scientific understanding of this symptom complex, with all its various etiological factors.

In the light of recent research on this subject, asthma, as a definite disease entity, became obsolete—it does not mean any more what it formerly meant. It has been placed in the class of those indefinite conditions called indigestion, rheumatism, fever, neurasthenia, etc. All of them including asthma have been relegated to the rubbish heap, where they properly belong, being indefinite and meaningless. There was a time when asthma was considered a definite disease entity, but it is not so any more. We all know now that asthma is nothing else but a symptom, it is a manifestation of a host of conditions, some definite, but most of them indefinite and obscure.

*Read before the Tuberculosis Section of the L. A. County Med. Ass'n, January, 1922.

Not very long ago, that is, before the era of protein sensitization secured a stronghold of the profession, asthma was considered an affection due to some form of respiratory disorder, that is, it was an affection of the lungs or bronchial tubes, and nothing else. To those of us interested in tuberculosis, this theory seemed plausible; it was evidently due to our acquaintance with the respiratory disorders, with their frequent asthmatic manifestations and complications. In many of our patients, these manifestations seem to be a respiratory disorder of a possible bacterial origin. Of late, the pendulum as to the etiology of asthma began to swing very strongly towards the side of pollen protein sensitization.

Food Protein, Pollen or Bacteria, As Possible Causes

The object of this paper is to discuss, and possibly question, the over-enthusiasm in this direction. The exponents of the protein sensitization theory claim that asthma is a manifestation of the patient's sensitiveness to various proteins both of endogenous and exogenous origin, that is, an absorption from a focal infection within the body, which is quite plausible, as well as an ingestion and inspiration from without. Three groups of etiologic agents have been definitely worked out as being possibly responsible for the asthmatic manifestations; they are: the food proteins, pollens and bacteria, with the emphasis on proteins and pollens.

While it is true that the food proteins and pollens are responsible for a number of asthmatic outbursts, *it is still a question whether they are the real cause of it, or only the exciting cause!* Is there no deeper pathology, possibly even more obscure, than the pollen and protein anaphylaxis theory? Norris and Landis state "Spasmodic dyspnea in which the chief difficulty is emptying of the lungs, the obstruction is in the upper respiratory tract, due to *infection* or *mechanical process,* as well as heart disease and nephritis are capable of causing dyspnea of a sudden onset."

Caulfield states: "If one regards bacteria as capable of causing the symptoms of bronchial asthma, then this conception is not to my knowledge supported by any experimental data, being *merely based*

on theoretical grounds, and the *clinical evidence* of *bronchial asthma may disappear after the removal or the successful treatment of areas* harboring foci of infection." By this we may understand, once the foci of infection were removed there were no more asthmatic outbursts.

Here it is quite clear that it is the bacteria that are responsible in such cases. He further states, "Many cases that were negative to protein showed fairly constant bacteriological findings and were asthmatic clinically."

Piness in his personal observation of 150 cases states that 14 per cent of these cases were of a bacterial origin; some patients of this group were also sensitive to other than bacterial proteins.

Brown, after thoroughly discussing the anaphylaxis of asthma, comes to the following conclusion: "It seems to me we must conclude that anaphylaxis is in some cases a predisposing or *contributing factor only, and not the common or direct etiologic factor.* In many cases, however, it may be the one element without which there is no asthma. The foreign proteins when present, cause circulatory changes, swelling and a lowered resistance of the part affected. Bacterial invasion occurs and pharyngitis tracheitis, bronchitis, etc., soon result." *He further states that asthma usually develops secondarily to bronchitis, tuberculosis and nasal disease,* and in this connection it should be considered merely as a symptom.

Theoretically, asthma may originate independently of an inflammatory state of the bronchial mucosa, and structural changes may be temporary or even permanent. They are surely not to be denied.

From all these observations we can easily deduct that bronchial asthma is a syndrome with very wide variations. It requires a very broad type of investigation if all the possible bacterial etiological factors are to be taken into consideration, and it is most important not to ignore the possible bacterial etiology. Even the greatest enthusiasts of the protein pollen sensitization theory admit, that there are a number of cases that are negative to all their known proteins.

Asthma and Tuberculosis

Now, as to the relation of asthma to tuberculosis, *tuberculosis being the most probable bacterial factor.*

Trousseau has always considered asthma and tuberculosis as being of the same diathesis. We all well know that asthmatic people are very frequently the parents of tubercular children, as well as asthmatic children being the offspring of tubercular parents.

Landouzy suggests that asthma may be an anaphylactic reaction to the tubercle bacilli.

Roboule spoke of *pretuberculous asthma,* meaning, that there are individuals with a nearly inactive tuberculosis *manifesting* itself in producing asthma.

Osler observed that one of the early signs of tuberculosis might be asthma with its wheezing and sibiliant rales.

Soca studied 140 cases of asthma, especially to discover the presence or absence of tuberculosis. He concludes that 120 cases were positively tuberculous. Later he reported on a series of 700 cases of asthma and his opinion was, that *nearly all* of these were tuberculous. His convictions are that all cases of asthma are tuberculous.

Frankfurter uses tuberculin in asthma, with patients showing much improvement, and concludes that tuberculosis and asthma are *interdependent.*

Brown in his chapter on tuberculosis and asthma, after naming many authorities pro and con, comes to the following conclusion: "By a thorough study of case histories, careful physical examination and a conscientious course of reasoning, I believe one will be led positively to conclude that many asthmatics, not only have *tuberculosis* foci but that these foci are very slightly active—sufficiently so to instigate and *contribute* to *chronic bronchitis.*" In his own series of 50 cases, nearly all of them were tuberculous and 10 per cent showed tubercle bacilli present.

In my own experience as examining physician for the admittance of patients to the Jewish Consumptive Relief Association Sanitorium at Duarte, I have found that more than 25 per cent of patients who are positive tuberculars are asthmatics as well. This is also true in my private practice. Quite a number of so-called ex-patients, that is old fibroid cases, have frequent outburst of asthmatic paroxysms.

Of course, there are a great number of prominent authorities who do not accept this view, but in this paper I am interested primarily in the bacterial origin of asthma and the authorities mentioned are all of this opinion.

Grippe and Bronchitis as Factors

Accepting the bacterial theory of asthma as being a plausible one it would stand to reason that in most of the patients who are subject to frequent attacks of influenza and bronchitis there should be pathological changes in the respiratory mucous membrane. This debilitated condition of the mucous membrane will render it sensitive to a great number of food proteins, and pollens, *these proteins and pollens acting merely as exciting factors. The pollens and proteins possibly act only in cases where there are pathological conditions in the respiratory organs, caused by bacteria or their toxins.*

The bacteria and their toxins evidently prepare the ground, so to speak, for the pollens and proteins; the latter act merely as irritants on a wounded diseased surface, in the same sense as smoke causes paroxysms of cough in people who suffer from some sort of catarrhal inflammation of the respiratory organs, while in people without catarrhal inflammation smoke has no effect. A great number of cases showing sensitization to a number of proteins, espe-

cially those of the dermal variety such as hair, dander, and feathers, are at the same time also showing, on repeated sputum examination, strains of streptococcus pyogenes and micrococcus catarrhalis, as well as tubercle bacilli.

In some cases the bacteria found are evidently the primary factors in these asthmatic cases, being later augmented by the dermal proteins, as Caulfield states, *"In most of the patients with a co-existing infection which has led to pathologic changes, repetition of the cutaneous tests has shown that sensitization tends to reappear."*

Conclusion

I believe more research in the direction of the pathology of the respiratory tract, will throw more light on the etiology of asthma, *irrespective as to the number of pollens and food proteins a victim may be sensitive to.*

The real origin of the asthmatic syndrome is in all probability of a bacterial nature. The tendency in many quarters to believe that the majority of cases of asthma are due to food protein and pollen sensitization is stimulated by an honest over-enthusiasm. The tendency of the present time is in the direction of the pollen and food protein theory. To some extent, this is the fashion and style of the day. We all remember the time when tuberculin was pronounced a sure cure for tuberculosis by Koch himself, and we certainly do remember the great outburst of over-enthusiasm when salvarsan was declared a "one shot" cure for syphilis, by Erlich himself.

New theories on obscure diseases seem like rapid rivers—they carry everything met on their way, they run for quite some time and distance until the proper levels are found and there they rest.

The proper level of the status of the etiology of asthma, as well as its treatment, will be found only then, when its sensitization theory will run through its course and pass through the same stages as tuberculin and salvarsan did. The enthusiast will cool down to calm thinking and healthy reasoning, based on the only positive standard—experience.

Visceral Prolapse Surgically Considered

External Mechanical Supports Should Always Be Given a Long Trial Before Surgical Measures

By A. Wiese Hammer, M.D., F.A.C.S.,
218 S. Fifteenth Street, Philadelphia, Pa.

Dr. Hammer says that while the stomach is the organ most usually prolapsed, wandering liver or spleen, movable kidney or displaced uterus, may each or severally be found in association. This is especially true in females—the result of tight lacing, repeated pregnancies, or—again depending upon the latter cause—engendered through muscular strain. Before using surgical measures, treatment by external mechanical supports should be given a thorough trial.—Editors.

THE TERMS, "visceral prolapse," "visceral ptosis," "splanchnoptosis," and "Glénard's disease" are interchangeably employed to indicate that condition of the abdominal viscera in which there occurs a lengthening of the peritoneum or the ligaments supporting the various organs, allowing of a lowering from their normal position, together with a range of motion exceeding by far that which is regarded as normal.

It is not our purpose to dwell upon the familiar facts laid down in text-books, but rather to emphasize certain selected thoughts that will appeal to the general clinician as well as to the operating surgeon.

While the stomach is by far the organ most usually prolapsed, wandering liver or spleen, movable kidney or displaced uterus may each, or severally, be found in association. This is especially true of females, be it the result of tight lacing, of repeated pregnancies or, again, depending upon the latter cause, be engendered through muscular strain.

The small bowel may be prolapsed into the lower abdomen and the pelvis. Coloptosis or prolapse of the colon is the portion of the large intestine most frequently prolapsed, especially the transverse portion, as it is the most freely movable, the most dependent part lying at the public symphysis. The frequency of gastroptosis in cases of young chlorotic girls is regarded by not a few investigators as a *cause of chlorosis,* they insisting that its occurrence

is due to the use of corsets during the developmental changes at puberty.

Glénard found gastroptosis to occur 400 times in 1300 patients he examined. No symptoms were complained of and these cases were discovered in the course of clinical investigation for other diseases. Although Glénard emphasized the fact that the condition was usually found in neurotic females, tall and scraggy, who complained of various dyspeptic symptoms, fulness after meals, flatulency and a tendency to faintness, when distension of the stomach took place. He found in association with gastroptosis, a marked mobility of the kidneys, especially the right.

Rovsing offers the following as his method: He gastric prolapse. In the one form, the abdominal muscles are firm and strong, allowing of operation. This form comprises a minority of cases; to this rarer group, Rovsing applies the name, "virginal."

The larger group of cases occurs in multiparous women, with thin, flabby belly walls, associated with prolapse of several viscera and which is relieved by bandage, belt or some other abdominal mechanical appliance. In the virginal form, such pressure devices are ineffective, because the robust, firm musculature does not permit of external pressure offering any impression upon the powerfully contracting abdominal walls.

Rovsing's Method

Rovsing offers the following as his method. He passes three stout sutures of silk transversely through the stomach, including only the outer coats. He takes the sutures through all the layers of the abdominal wall, and secures them externally over a glass rod. At the end of four weeks he removes the sutures, when the stomach is tightly adherent to the anterior abdominal wall.

Duret's Operation—"Gastropexy"

It is, however, to Duret, of Lille, that we owe the first suggestion for the performance of the operation of "gastropexy." His patient, a married woman, had suffered very severely for three years from a gastric prolapse. Surgical opinions and consultations had availed nothing. Duret performed a median laparotomy. The peritoneum in the upper part of the wound was not incised. He exposed the stomach and fixed it by means of a silk suture to the undivided but exposed peritoneum. This operation is approved by many excellent surgeons, but it is condemned by others, including Mayo Robson, on the ground that gastric adhesions to the abdominal wall are capable of producing serious and dangerous symptoms.

Coffey's Method

Coffey* "slings the stomach in a hammock" by suturing the omentum along the greater curvature to the abdominal wall above the umbilicus.

* Philadelphia Medical Journal, Oct. 11, 1902.

Beyea's Operation

The most satisfactory operation and that endorsed unanimously by the profession, originated with Beyea,** of Philadelphia. Beyea shortens the suspensory ligaments of the stomach by passing a series of sutures through the gastro-hepatic omentum, which he applies in three rows. The great advantages of the operation are to be found in the retention of the normal mobility of the stomach and the absence of any abnormal attachment to the abdominal wall.

On the subject of gastroptosis the following is Moynihan's opinion: "There are, doubtless, cases in which an operation of this kind (Beyea's) is necessary. Such cases, however, are few. The treatment by external mechanical supports should always be given a long trial before surgical measures are advocated, and consideration must always be given to the fact that the patients are often of a profound neurotic type."

Hepatoptosis or downward displacement of the liver (not due to fluid accumulations above it or to lateral deviation of the spine), is often confused with a colonic tumor, a movable right kidney, or with tumor of the pylorus, gall bladder or pancreas. In 1866, the condition was first accurately described by Cantani, and within more recent years, Einhorn, of New York, has shown the great frequency of the occurrence of this displacement. As a rule it is a part of the symptom-complex of Glénard's disease. The organ may descend into the lower abdomen; Demarquay has found it upside down. Griffith found it rotated on its transverse axis, and others report it firmly and immovably fixed by unbreakable adhesions. According to Bevan, of Chicago, the condition is not infrequently congenital.

What Are the Mechanics Involved?

Two varieties are recognized by systematic writers: The *partial,* in which there is a downward prolongation of a portion of the liver; this results in a condition known as "Reidel's lobe." The *complete* variety, in which there is a prolapse of the whole organ. The question naturally arises, what are the mechanics involved in the downward displacement of so large and well-fortified a gland?

Strange as it may appear, Faure has shown that the vena cava is the most substantial mechanical support of the liver, comparable to the relationship borne between the great vessels and the heart. The liver is naturally strengthened by the support lent to it by its ligaments proper. Another factor in maintaining the liver in its normal position is intra-abdominal pressure, plus the pressure exerted from below by the stomach and bowels. Sappey and Landau attribute much of the liver's stability of position to the question of a constant intra-abdominal pressure; Faure considers the matter as negligible.

** Amer. Jour. Med. Sci., June, 1899

As just stated, the vena cava is the mainstay of the liver's support; therefore, in its descent, it is natural and correct to infer that as this great blood channel is in relation with the posterior surface of the liver, that surface moves the least; per contra, the anterior surface moves the most, hence the movement is of a nodding or of a bowing character. As the right lobe is larger and heavier, its descent is greater than the small left lobe.

Immediately to the right of the gall bladder is a downward projection from the right lobe of the liver, designated "Reidel's lobe." This tongue-like offshoot is almost always associated with gall-stones, and its existence is thus caused, according to Reidel, by the distension of the gall bladder, pulling down that portion of the liver in its immediate vicinity. That this is the true explanation would seem to be evident, for Reidel and many other surgeons have repeatedly shown that when the operation of cholecystostomy is performed in such instances, the projection gradually disappears and the conformation of the liver slowly returns to the normal. As a rule, a well-fitting abdominal belt is all that is to be recommended. Byron Robinson's inflatable rubber pad is approved by some of the best-known surgeons in this country and abroad. But when these means fail or are inapplicable, or where Reidel's lobe cannot be mechanically dealt with or is extremely painful, various operative measures have been brought forward. These include removal of Reidel's lobe, suture to the abdominal wall and cholecystectomy.

The operation of fixing the whole liver was suggested by Kisbert in 1884, and the first total hepatopexy was performed by Gerard-Merchant in 1891. In this operation a portion of the liver substance is picked up by a series of sutures of stout silk, and because of the friability of the liver substance, a special needle devised by Kousnetzoff should be employed. Each suture is fixed to the anterior abdominal wall or to the costal margin. In addition, all parts of the liver are to be subjected to vigorous gauze friction, in order to facilitate formations of adhesions.

Moynihan's Plan

All sorts of modifications have been practiced with varying results, but the following plan devised by Moynihan has very many adherents:

"The best plan," says Moynihan, "would seem to me to be this: To make an incision obliquely about one inch below the margin of the costal cartilages; to replace the liver; to secure the anterior edge securely with several sutures to the costal margin; to pack in between the liver and the diaphragm and also possibly beneath the right lobe of the liver many strips of gauze, which should be left in place a week; to keep the patient absolutely at rest in bed (with the foot of the bed elevated a few inches) for at least one month."

Clark's Conclusions

John G. Clark, of Philadelphia,* notes certain surgical phases of enteroptosis; cases of congenital habitus, the acquired variety, and those following post-operative adhesions, such as in cases of hernia and after the removal of large tumors, and he arrives at the following conclusions:

That all non-surgical means should be exhausted before resorting to operation. All cases of congenital habitus are contraindications to surgery. The degree of prolapse is best studied by the X-rays. When the colon is markedly prolapsed with stasis and partial obstruction, partial colectomy is indicated. When the sigmoid is the seat of prolapse, suspension or sigmoidectomy is the operation to be preferred. An abdominal belt must always be worn.

A floating kidney bears an important relationship to splanchnoptosis. Ransahoff says: "Quite often a movable kidney is only a part of a general visceral enteroptosis. In a large number of cases of the latter, observed for a long period by me, the kidney was the *first* organ involved. In a secondary way by traction on the duodenum and colon, the loosening of the intra-abdominal viscera was seen to follow in a secondary manner."

The preponderance of floating kidney on the right side has been attributed to the naturally lower position and the proximity of the right lobe of the liver. Landau holds that the unsupported condition and the greater length of the right kidney as compared with the left, is responsible for the preponderance of right kidney displacements.

When the displaced kidney is part of a general prolapse, an abdominal supporting bandage surrounding the abdomen from pelvis to abdomen should be employed as a substitute for the lost intra-abdominal pressure; this should be reinforced by a pelvis band with lateral steel uprights reaching half way to the axilla on each side. While the operation of nephrorraphy or nephropexy is demanded in intermittent hydronephrosis, hematuria, severe pain, and *beginning* gastroptosis; in *general* enteroptosis, as pointed out many years ago by Ransohoff (and whose view in these instances are in general accord with the profession); " . . . *the fixation of the kidney alone is followed by not more than temporary benefit.* Although, as a rule, in cases presenting a *preponderance of nervous symptoms, kidney fixation is not of permanent benefit,* the writer has seen a number of instances in which *permanent* good results were obtained."

Wandering Spleen

Another organ which may be shifted from its normal position, either primarily or as a component factor, in Glénard's disease is the spleen. This organ,

* Surgery, Gynecology and Obstetrics, 1908, p. 389.

which normally has a very slight range of movement, may be found in any part of the abdomen. When freely mobile its excursions in the abdominal cavity are of wide extent, so much so that it has been found in a sac of an inguinal hernia. From its entry into the pelvis it has and is often mistaken for an ovarian or a uterine tumor. The movable spleen is always larger than normal and Bland-Sutton remarks that, although it may be freely moved in the abdomen by the surgeon's hands, and as the patient turns from side to side it always falls to the most dependent part, it seems to float upward on the intestines, "like a boat on the crest of a billow."

A wandering spleen may affect the pancreas, especially its tail, and Rokitansky reports a case where the tail of the pancreas was so pulled upon that it measured ten inches in length and formed part of the twisted pedicle, being wound three times around the splenic artery. In reporting a case of splanchnoptosis, Kouwer mentioned a spleen in the pelvis that caused complete prolapse of the uterus, bladder and vagina.

As a general rule, a wandering spleen is so badly damaged, either by pre-existing disease or from rotation on its pedicle developing through its migration, that splenectomy, rather than splenopexy, is the demanded operation.

As was previously mentioned, operative procedures are, as a rule, contra-indicated in neurotic individuals with a symptomatology of Glénard's disease. Mechanical devices should be given a thorough trial. Operation should only be done when imperatively demanded.

Cancer in the Cervical Stump

Robert T. Frank (*Surgery, Gynecology and Obstetrics*, Sept., 1922) says complete hysterectomy for fibroids of the uterus is not recommended as a routine measure, because of its increased mortality over supravaginal amputation.

Increased care in examining the cervix, *before* all operations for uterine conditions are undertaken, is enjoined and it is suggested that the patients after operation be warned to note and report bleeding or abnormal discharge.

Studies in Asymptomatic Neurosyphilis

Albert Keidel (*J. A. M. A.*, Sept. 9, 1922) says since neural invasion occurs in probably all cases of early syphilis, and the incidence of late symptomatic and asymptomatic neurosyphilis is limited, it is probable, if not certain, that immune reactions protect the neuraxis. The character of the early tissue reaction to syphilitic infection, the intensity, continuity and duration of the therapeutic attack, and the occurrence of pregnancy in women, markedly modify the incidence of neurosyphilis, both clinical and asymptomatic. An analogy exists between these factors in human syphilis and the laws of progression and inverse proportions in animal syphilis.

Surgery and Tuberculous Peritonitis

To the Editor of THE AMERICAN PHYSICIAN:

SIR:—Looking over some back numbers of THE AMERICAN PHYSICIAN I find the excellent contribution on the subject of Tuberculous Peritonitis on page 35 of the January, 1922, number.

There is one point, however, to which I would take decided exception. Dr. Forbes states that it was formerly the custom to perform a laparotomy in these cases, but of more recent years physicians had felt that it has not been proven that the success following this treatment was not due to it, but rather to the general treatment which had been carried out.

In my own experience improvement has sometimes been so prompt after a laparotomy that patients have seemed to gain weight and to improve in general well-being in less than a week after the peritoneal cavity was opened. The philosophy of the subject appears to be concentrated about the idea that opening the peritoneal cavity calls out an immediate hyperleucocytosis of high degree. The phagocytes then promptly attack tubercle bacilli, not in a month or in a week, but in a day. It is not necessary that laparotomy should be a formidable affair. It may not interfere with a single meal on the part of the patient if one cares to open the peritoneum through a small incision under local anesthesia.

I am quite in accord with the view of Dr. Forbes that general treatment of the right sort is of importance not only in cases of tuberculous peritonitis, but in any other sort of tuberculosis.

There should be almost no deaths from this disease if patients are in the right hands in the profession and if they are in a position to carry out plans of the right doctors.

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Fat Necrosis of Female Breast

Lee and Adair (*Surgery, Gynecology and Obstetrics*, April, 1922) report after a study of three cases in addition to those previously presented state that the present study furnishes important additional evidence that traumatic fat necrosis of the female breast is a disease not infrequently encountered, and one which must always be carefully differentiated from carcinoma.

They express the hope that this report may stimulate surgeons and pathologists to a more careful scrutiny of the gross and microscopical pathology of all tumors of the breast in the belief that a thorough search for evidence will reveal many cases of this disease hitherto unrecognized, and suggest the possibility that some cases which in the past may have been diagnosed by the gross picture alone as carcinoma of the breast may not have been cancerous in their nature at all, but perhaps true examples of traumatic fat necrosis.

Doctor Mackenzie Forbes' Post-Graduate Diagnostic Clinics

A Series of Thirty Clinics Emphasizing Diagnosis that Should be Most Helpful to the General Practitioner

By A. Mackenzie Forbes, M.D., 615 University St., Montreal, Canada

Thirtieth Clinic

Surgeons, Hospitals and Teachers

This last paper is a fitting climax to the notable series of clinics by Dr. Forbes, which has stimulated so much interest among progressive physicians. We believe you will find it an inspiration, as we did.—EDITORS.

MANY STRONGLY object to the time-honored practice of writing an epilogue. They think that a book should tell its own story.

Surgery is one of the divine arts, but this does not mean that all who practice it are imbued with that breadth of character, that liberality which calls us to the Divine.

Breadth of character comes from a diversity of interest. It tends not only to add charm to a man's personality, but it tends to give him sympathy and consideration for others.

If one examines the roster of operators in any of our North American hospitals one wonders what time the surgeon has for study, for breadth of outlook and for catholicity. In surgery we want architects, not carpenters. But how many of our surgeons are architects?

Surgical diagnosis means more as a test of intellectuality than operative technique. The difference is that difference between the architect and the carpenter. Yet how much time do our surgeons spend on diagnosis, at the bedside of the patient or in our out-patient departments as compared with the time they spend at the more showy, more theatrical, more self-advertising work of the operating theatre? The glamour of the operating theatre has over-shadowed the out-patient department and the wards from both of which the greater part of the surgeon's training should come.

An American railway magnate, before leaving for a holiday, expressed the desire that his friend, a noted surgeon, should accompany him. The latter pleaded that his engagements must debar him from the proffered pleasure. "Come," said the magnate, "any carpenter can take your place." There is many a true word said in jest.

I do not wish to decry the efforts of operating surgeons. I do not wish any one to infer or suggest that technique is of no importance. I plead only for catholicity. The physicians are the most catholic members of our profession. Yet I remember once having been chided by a surgeon for having called a physician in consultation in the case of a patient suffering from an abdominal lesion of an inflammatory nature. He said, "What can a physician know compared with my knowledge who daily opens the abdomen?" It was a question between appendicitis and pus in the gall bladder. When the abdomen was opened he who had declared in no uncertain terms for the latter was nearly drowned by an out-pouring of pus which surrounded the diseased appendix.

The physician has evidently a broader or better education than the surgeon. This is shown by a disregard of surgical training shown by surgeons in their choice of assistants. They choose those who have been trained as physicians.

A great American surgeon once said that the best text-book of surgery was Osler's Practice of Medicine. How true!

Diagnosis is a science, operative technique is an art. Real knowledge comes from the former. Dexterity comes from the latter.

The greatest surgeon whom Britain has produced was an indifferent operator. I think that I may say with fairness that he who is responsible for our knowledge of aseptic surgery has done more for the world than any surgeon in history.

"Surgeons," said Dean Shepherd, of McGill's Medical Faculty, many years ago, "should be men of originality, judgment and a sense of humor." Does this hold good today with men whose lives are spent in the operating theatre?

Surely, said my critic, there must be some reason

why so many general surgeons devote their lives to the theatre, when study, diagnosis and the development of character are so important.

Yes, there are two reasons: the first is that the operating theatre of the teaching hospital is a place of action and seems to more thoroughly satisfy the surgeon's ambition than any other part of his work; the second reason is that a surgeon who is responsible for one hundred or more patients suffering from acute conditions can have but little time for any work but that of the operating theatre.

In our personal opinion the care of twenty-five patients suffering from acute affections is a great enough tax for any surgeon.

A critic may ask, What argument has been produced in the past to justify the allotment of even one hundred beds to one surgeon? Is not the answer to this question that so great a number of beds have often been allotted in the past to provide sufficient clinical material for the purpose of teaching students?

The contention of the critic is well taken, but is it taken without considering the facilities for teaching in the out-patient department of our great hospitals in which the greater part of teaching should take place?

Should not every surgeon personally control an out-patient department as well as the beds necessary to accommodate the patients received in that department? Diagnosis and emergent treatment should be taught in the out-door. The student should follow his teacher, the surgeon, into the wards, there to see further development. Would this not mean the end of the oligarchy of surgery? Would this not mean that our surgeons would be evolved by hard work and ability rather than by good fortune? Would this not mean a new breed of surgeons—a class whose life would be spent in thought, mental development and teaching?

The Greatest Quality in Surgeons is Judgment

Judgment which dictates when to do and when not to do is of far greater importance than technique. The practice of routine operations, day after day, day after day, can hardly be conducive to the development of this brilliant quality. Indeed, if technique is desired, the dissecting rooms of the department of anatomy or the operating rooms of the department of experimental surgery should be the best primary school, especially if the surgeon be a man of originality and genius and has the moral courage to depart occasionally from the routine and the prescribed curriculum of teaching in the former department. The dissecting room in many British medical schools was, in the past, and may be still, the high road to surgery, if the candidate possesses the proper mental qualifications. The Germans exalted pathology and the Americans followed. Thus, many of our universities and hospitals became waterlogged with made-in-Germany principles. No young man can be a candidate for high position unless he well knows the relative usefulness of carbol-fuchsin and methylene blue. We do not wish to depreciate a knowledge of pathology; on the contrary, we extol it as we extol all learning, but we do not think that the present system of training develops originality. May we ask—are not surgeons today nearly all made on one pattern and that often a very narrow pattern? Are not some of them so intellectually circumscribed that they cannot conceive of their being any other pattern than that in which they themselves are moulded?

Are candidates for surgical positions chosen because of their possessing the mental qualities which will advance the science which is their profession and exalt the institutions to which they are to be attached or are they chosen for their orthodoxy? This orthodoxy means, has meant, lack of progress, but it also has meant peace for the intellectual sluggard who desires no change but the change brought about by himself.

General surgery embraces all surgery, but the growth of surgery has been so rapid of recent years that only a very few surgeons have been sufficiently gifted to deal efficiently with all types of cases.

The peculiar mentality of some surgeons is well shown in their attitude towards the surgical specialist. They seem to fear him as a competitor. The gynecologist, although usually a better abdominal surgeon than the general surgeon, must not be allowed to remove an appendix, the genito-urinary surgeon may be allowed to make the diagnosis for the general surgeon, who often wonders why he, the genito-urinary surgeon, should be allowed to go further.

Surely, the general surgeon should not object to a special study being made of any subject or branch of surgery, if such study either tends to advance the general knowledge of the subject or the knowledge of the individual student.

Hospitals

It has been said that a surgeon cannot be great unless he is a teacher. This is questionable, but it is generally conceded that hospitals which do the best work are those in which teaching is done.

In these undemocratic days one cannot be an operating surgeon unless he is associated with a hospital, because this association alone gives him the moral right to operate. One would, indeed, be culpable who opened the cranium for a tumor of the brain in the patient's private house. For this reason the hospitals are able to control surgical practice. Indeed, the surgeon soon becomes their slave, thus the boards of management of these hospitals which, of course, are usually composed of business men, do not hesitate to hold the whip over the surgical profession. Naturally these committee-men, ignorant of things surgical and often unconsciously prejudiced, believe that good surgeons can be picked up any-

where. It is not long since it was inferred in a large hospital that it would be very much easier to get a new surgeon than a new plumber.

If this be the sentiment, how can we expect our surgeons to be big and broad-minded? Yes, "surgeons" can be picked up almost anywhere, just as tradesmen can be picked up anywhere. But architects are born and not made, and if we accept the postulates already laid down that a surgeon must be a man of originality and judgment, that he must be a broad-minded and big man, certainly our committees of management will have great difficulty in finding a successor to the surgeon who is sacrificed for the plumber.

Every one knows that members of the committee of management of a hospital sacrifice a great deal of time to, and are intensely interested in, the management of their hospitals. For this all will unite in their praise, but does it not seem absurd that as highly technical an institution as a hospital should be operated exclusively by a committee of men who know little about hospitals, hospital life or the work which should be done in a hospital? Business men will always be invaluable on the financial and general executive committees of hospitals and public institutions, and especially will they be valuable on those sections or departments which have to do with the purchasing of the ordinary necessities.

The only safeguard which a hospital can have against the lack of technical knowledge on the part of its committee of management is that at least one-quarter or one-third of such committee shall be composed of members of the medical profession who are actually working in the institution and who know intimately the needs and requirements of the patients being treated in its wards.

The Executive Committee of a hospital ordinarily appoint an administrative officer to represent them and to carry out the actual management of the institution. The late Mr. J. Ross Robertson, who did so much for the Children's Hospital in Toronto, used to declare that the best manager for a hospital was one who had been trained to manage a hotel.

Of recent years it has been the practice in many hospitals to appoint a medical man who, having given up the practice of medicine, has specialized in the business administration of a hospital. This has many things to be said in its favor, but there is one very great danger. A medical man who ceases to practice medicine, ceases to be a medical man. The danger lies in the committee of laymen forgetting that their administrative officer has become a professional administrator in lines of business administration and now his judgment of things medical and of medical men is worth no more than that of a layman. Unless the executive committee of a hospital fully realize this important consideration they are liable to be led into making vital mistakes in the policy of their hospital and in their dealings with the medical attendants of their hospital.

Hospitals Are Becoming Commercialized

Our hospitals are becoming commercialized. They are losing their old personal and humanitarian touch. Business efficiency, amalgamations and combines have so intoxicated our lay friends that they aim at running our hospitals after the pattern of the Untied States Steel Corporation or the Canada Cement Company.

We must not accept as gospel truth the doctrine that combinations, unions, and mergers make only for efficiency, economy of administration and everything that is good. Yet, it will be hard to divorce this from the minds of our business men who have become so accustomed to thinking in terms of mergers that they are now even carrying this principle into their religious, social and philanthropic life. Indeed, we shall be fortunate if we escape dictation as to where we shall worship, where we shall lie when sick and afflicted or where we shall die.

The personal touch, that touch which is so important when dealing with the sick, is not considered. The sentiment expressed in the words of Hamon, the great sociologist, is unknown to many business men of today. "Man is an animal living with a life of its own and not a machine driven by a will external to itself." Theoretically, union is strength, but practically the union which makes machines of men kills competition and initiative; it is not only oligarchic and non-democratic, but also soul-destroying. Remember the words of Schiller:

> *"Organization has condemned to crawl like a snail him who should have soared like an eagle. Organization has not yet produced a single great man. It is liberty that gives birth to colossi and extraordinary beings."*

The rules and regulations of a hospital must be more elastic than the rules and regulations of a business corporation. The first function of a hospital should be the care of the sick, the second the teaching of the student, the third business efficiency. If we reverse the order of these, we debase the hospital to the level of the soulless machine. If we reverse the order of these, our medical men will become simply parts of this soulless machine. They will be condemned to crawl like snails, they who should have soared like eagles. Let us remember that a hospital is for the care of the sick, that this cannot be properly carried out unless liberty of thought and action is part and parcel of the life of those who are responsible for the care of the sick.

It is true that we have many splendid hospitals in which the rich can be cared for at a fair cost, and in which the poor are generously cared for at the expense of a patriotic and open-handed public, but

the great majority of the middle class cannot afford to pay the "fair cost" charged to the rich, and to beg they are ashamed. Hospitals should be supported by the state, although they should be managed by individuals. It is wrong to expect the widow to spend her mite in the voluntary support of these. In a democratic society it is absurd to expect our physicians and surgeons to sacrifice their lives in unremunerative service in their wards. The governing class have been so remiss that the widow and others charitably disposed have had to provide hospital accommodation for the laborers employed in our large corporations. Many corporations have made no real provision for their casualties, and the governments have neither insured these nor insisted that provision should be made by which they are insured at the expense of the corporation employing them, that they may not become the recipient of the largesse of the non-manufacturing public.

Teachers

It is a great mistake to think that a surgeon or physician cannot rise to high estate unless he be associated with a teaching school. We often hear those who are interested in teaching telling our physicians and surgeons that they owe their success to their association as teachers with their university. While I am quite willing to agree that some surgeons and physicians may get certain legitimate advertising by teaching, and especially theatre teaching, again, while all must realize that, in order to teach the physician or surgeon must continue to study the subjects which he is called upon to teach, I cannot accept the doctrine that association with a teaching institution is essential to the professional man's success. Let us think of the case of Sir James Mackenzie, a man whose work on cardiac conditions revolutionized our knowledge of that subject. Was he not a general practitioner without special connection with hospital or university?

Let the universities realize that their hold over their teachers lies neither in the self-interest of the teacher nor in his financial remuneration, but rather in the fact that all medical men are brought up in a school in which there is a certain mental association between the teaching and the practice of their art.

Has it not been said that clinical teachers in medical colleges are sometimes appointed either because of their ability as investigators in pathology and the sciences, their ability as operators or their ability to advertise the college employing them? Is it possible that some of them are chosen without regard to their qualifications as teachers?

Neither the initiative of the investigator, the mechanical skill of the operator nor the ability to please will make a teacher. More is required. Teachers are born and not made. This is said with no desire to depreciate a knowledge of pedagogy, because we believe in training. Yet, judgment and an inherited ability to impart knowledge are the two great essentials for teaching. It is fortunate for medical colleges that since the time of Aesculapius medical practitioners have esteemed the imparting of knowledge to others as part of their life's work. University authorities who are impressed with the misapprehension that teachers in the faculty of medicine receive more than they give are operating on a principle which is erroneous and cannot be defended.

Hippocrates stated that "Experience is fallacious and judgment difficult." For this reason the thoughts expressed in this essay on "Surgeons, Hospitals and Teachers" may, in some cases, be based on false premises. There are many big, broad-minded men who are surgeons. Many surgeons have earned the attribute of "God's noblemen." There are many hospitals which have not lost the personal touch. There are many seats of learning which preserve their ancient virtues. But surgeons, hospitals and teachers will agree that neither universities, colleges nor hospitals are made by the walls which surround them, nor are surgeons or teachers made by the intellectual garments which they wear.

Roentgen-Ray Diagnosis

Franklin W. White says the roentgen-ray method is a very delicate one in the diagnosis of chronic changes in the appendix and clearly shows fixation, kinking, changes in shape, obliteration, slow emptying of the fecal material, etc.; in short, it gives many facts about the appendix, but it does not tell us what to do. Many times when the report comes from the roentgenologist "chronic appendicitis," our impulse is to do immediate appendectomy. This is not a wise attitude. Frequently chronic changes are found, such as poor mobility, small fecal masses, peculiar shapes, chronic obliteration and moderate delay in emptying, which apparently do the patient no harm, and often we do not benefit him at all by taking the appendix out as result of such an examination. I have been following up quite a series of patients for four or five years, in whom the roentgen-ray has shown definite chronic changes in the appendix, and have found quite a large number in whom these changes apparently made no difference to the patient at all. He kept his appendix and was happy.

Hopes of Long Life Blasted

"Secret of long life is work," says an Illinois centenarian, and thus blasts many a hope.

The Successful Treatment of Chronic Diseases

THE PHYSIOLOGICAL RESPONSE OF LIVING CELLS TO AN AGENT MUST BE OUR GUIDE

By Albert C. Geyser, M.D.,
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DURING the last few years physical therapy has made tremendous strides. In the various rehabilitation camps many things have been accomplished that were previously considered impossible. This is all the more remarkable because all of these cases were in what we are pleased to consider the "chronic stage" of disease.

In order to appreciate more fully the underlying principle involved, it will be necessary to have a thorough understanding of the meaning of the term "chronic stage."

What is disease? When an individual is in a normal state of health, he is not aware that he is the possessor of any organs; he is *at ease* with himself. On the other hand, the moment he becomes aware of the fact that he has an arm, leg, stomach, liver or any other organ or appendage to his body, from that moment on he is at *dis-ease* with himself. In other words, as soon as any part of human anatomy functions contrary to the laws of physiology, there can no longer be that mutual co-operation and restraint essential for body harmony. If body harmony is interfered with, there is bound to be dis-ease. Disease may be brought about by physical, chemical or bacterial agents. When one of these forces affects the body, the door is opened for all the others. When a person has met with some injury, there is a locus minoris resistantia, a favorable opportunity for bacterial invasion; this in turn causes harmful chemical substances to enter the blood stream; all of these acting in concert produce mental depression. The patient is thoroughly at dis-ease with himself and all of his surroundings.

All of these enumerated conditions apply more especially to the acute disease processes.

What Is the Chronic Stage?

The individual, injured or attacked by disease, makes every possible effort for a recovery. Sir Astley Cooper once said: "Some patients get well *with* treatment, some *without* it, but most of them *in spite* of it." This attempt at recovery involves increased physiological function. If the injury is of such a nature that, with all of the available physiology, complete recovery cannot take place, then the patient suffers in a dual capacity; the one is the result of the uncured original injury, the other, the effect of either *hyper* or *hypo* physiologic function. These two conditions we have designated the *"chronic stage."*

Let us take a hypothetical case. A patient received a compound fracture of the leg. Infection took place. As a result of the coccus hemaleticus, local abscess formed in various parts of the body, the joints became swollen and painful, chills and fever alternated with each other. With treatment or without treatment this patient gradually recovered from the acute attack. Various tendons and fasciæ were bound down by adhesions causing impairment or loss of function; the red and white blood corpuscles were used up in the attempt at repair and the hemogenetic powers of the individual were inadequate to bring the blood count up to the normal again; secondary anemia was the result. Of course, it was not at all necessary that our hypothetical case should have met with so serious an accident as a compound fracture, all that was needed was an injury to the gum margin causing pyorrhea. It does not matter where the local infection is located, nor how it was originally brought about. Once the machinery is set in motion, there may be anything from a complete recovery to the most chronic stage of invalidism. It must also be apparent that the chronic patient suffers more from his own perverted physiology than from the original disease as will be shown in the following cases. The patient suffered an attack of poliomyelitis. Complete recovery took place from the original infection, but there remained a paralysis of some one or more of the extremities. The immediate cause of the paralysis is a fibrosis in the anterior horn of the spinal cord. The fibrosis was caused by an inflammatory process in the cord. Had the inflammation continued or had it been adequate at the time, it would have removed this fibrosis by absorption and there would not have been the chronic stage of poliomyelitis. In a case of locomotor ataxia the original specific infection may long since have disappeared from the body, but the results of the inadequate physiological func-

tion left its traces in the posterior columns of the cord. Even though the original specific germ is still in evidence, there is no anti-luetic treatment that will have the slightest effect upon this chronic stage of syphilitic ataxia. Another patient suffered from cerebral apoplexy. As a result of an undiscovered arteriosclerosis, with its consequent high blood pressure, rupture of a cerebral vessel occurred. The clot pressed upon the motor cortical area causing a unilateral paralysis. To remove the cause of the hardened blood vessels may be good therapy, but it will not clear up the paralysis. Another patient complained of a tender and much enlarged knee joint. He was a young man and admitted a Neisser coccus infection, a urethritis veneria some months previous. Upon microscopic examination no trace of the germ could be found, but the chronic stage of the previous urethritis was much in evidence. The infective agent was not in the urethra any more, but it was in the joint. The urethral inflammation was adequate, but the joint inflammation was inadequate. Enough has been said to direct your attention to the fact that, as a rule, in the "chronic" stage of a disease the original cause may long since have departed, but that the symptoms of which the patient complains are due principally to a perverted physiology. This perversion may take on the form of hyperfunction as chorea, paralysis agitans, epilepsy, certain psychoses, etc., or it may appear as a hypofunction, constipation, paralysis, secondary anemias, glandular enlargements, general apathy, etc. In either case perverted physiological function is the basis of the chronic stage of most of diseases.

Treatment

Whatever the method of treatment is, it must be in harmony with physiology. Without fear of contradiction, I make the sweeping statement that any therapeutic measure not in harmony with physiology is of questionable value, no matter what the apparent clinical results may be.

What is physiological therapy?

It is much easier to state what is *not* physiological therapy than what *is*.

Of one thing you may rest assured, "It is not the agent, but the physiological reaction of living cells to an agent that must be our guide in applied therapeutics." Much though we may question or even condemn Christian Science, faith cures, osteopathy, chiropractic and other cults, let me say to you, that while I am not in sympathy with such cults on general principles, every one or all of these measures, if employed in such a manner as to evoke the proper physiological response, become physiological agents. There are many of my school who decry homeopathy. The main fault that I find with homeopathy is that Hahnemann was born 100 years too soon—he was ahead of his time. He was looking and striving for agents that would produce proper physiological responses.

Since every chronic stage implies more than one and as a rule several different physiologically perverted functions, it is evident that our first rule should be to treat the patient and not the disease. A second rule is to make a clinical diagnosis first, confirmed by the laboratory later. If your clinical diagnosis was correct the laboratory confirmed it. In New York City we have typhoid Mary; I believe here in Chicago her counterpart has been found. These persons are healthy carriers of typhoid germs—they themselves are immune to the disease. If either of these should be taken sick, your clinical diagnosis might have been a broken bone or even a case of parturition, but the laboratory diagnosis, based upon an examination of the dejectu or the blood, but not upon the patient, would have made it typhoid fever.

Having based your diagnosis upon the perverted physiology, you may not have been able to label the chronic disease, you may not have found an expressive nomenclature, but you will have known what ailed the patient.

Every chronic patient requires specific and general therapy. Since the scope of my paper does not permit me to consider specific therapy, I will omit that entirely. According to the laws of physiology all metabolism is carried on in the capillaries. Nerve shock or toxic agents in the blood stream cause spasm of the capillaries. If the spasm is continued long enough, from the want of nutrition, the spasm changes to dilation, capillary paralysis, which produces stasis. Either one or the other condition is bound to be present in every chronic state. I need not waste your time in picturing the consequences. There are many agents that will overcome either of these conditions. The question is, are they physiological agents? Capillary spasm is quickly overcome by nitro-glycerine, capillary stasis frequently yields to strychnine. The first one causes paralysis in a spastic vessel, the second causes spasm in a paralyzed vessel—enough said. Hot and cold baths produce physiological responses. The best and most convenient agent is diathermia from a high-frequency apparatus. Diathermia, as the name implies, heats the part through and through. Heat is a normal physiological property of the human body. Heat dilates the spastic capillaries, allows hot blood to course through them, thereby bringing the nutriment of the blood stream where it is most needed. In capillary stasis, the vis a tergo (power from behind) causes the stationary blood and lymph to be propelled onwards; as soon as new hot blood reaches the paralyzed capillaries they contract to normal because it is physiological for them to do so. In every chronic stage either one or both conditions are present; diathermia is the indicated physiological agent. Through its effect new tissue is produced, old is absorbed, both of these conditions are

necessary in every chronic disease.

The next important consideration is the condition of the blood, for, after all, but little is gained by a dilatation of the capillaries if the wandering cells are insufficient to perform their physiological function.

How to increase the wandering cells?

It requires no proof on my part to say that colloidal iron is the best agent to stimulate the increased production of the red blood cells. It has been conclusively proven that iron as prepared in a colloidal state can be introduced directly into the blood stream by the intravenous method in enormously larger quantities than is usually supposed. I have seen the red cell count increased by 1,000,000 after the fourth injection. It is not enough to simply increase the red cell count. Of even more importance is a leucocytosis. A single intravenous injection of sodium iodide, 30 grams, will show a reaction within one hour. The leucocytes are the scavengers. It is as important to remove the old as it is to renew worn-out tissue. Both of these drugs when used intravenously produce physiological responses. They are indicated in every chronic disease. So far we have used diathermia to dilate the capillaries and to overcome stasis, we have increased the erythrocites with colloidal iron, we have stimulated leucocytosis with sodium iodide. At this stage the condition of our chronic patient may be compared with that of a horse that is properly stabled and well fed. Something else is now required, we must create the performance of physiological function. I do not suppose that there are many doctors here who still drive a horse, but those of you who have ever driven one know only too well what would happen if the horse was well stabled and well fed, but not well exercised.

How can a rheumatic, gouty, anemic, despondent or neuralgic patient take proper exercise?

The performance of all physiological function depends upon tissue contractions and relaxations. There certainly is no doubt about that. Neither massage nor passive motion cause muscular contraction. Besides the patient's own effort there is only one agent which can produce the desired effect and that is a faradic current. The galvanic current is contraindicated because it causes electrolysis which is unphysiological. It can only cause muscular contractions during the make and break of the current. A muscle is never in a state of contraction during the time while the galvanic current is flowing. The faradic current, by means of its vibrator spring, is opened and closed any desired number of times per second. Muscular contractions and relaxations require time for their performance; when the rate of interruption is higher than 30 per second, there is not enough time for complete relaxation and the muscle assumes a state of tetanus. This tetanic condition becomes more and more manifest as the oscillations increase in frequency until they reach about 3000 per second and is stationary or at its maximum up to about 5000 per second.

If the rate of vibrations is still further increased, the muscle gradually returns to a flaccid condition because it can no longer respond; it no longer appreciates the individual stimuli, consequently there is no physiological response. Such observations compel us to accept the vibratory theory of all living cells. Biologically all cells are fundamentally alike; they may differ in construction, size or function, but their vibration is their manifestation of life; their rest is death. It was for this reason that diathermia was used to relax spasm in the capillaries. The alternations of the diathermia current are 1,000,000 per second; they cannot evoke muscular contraction, their energy is all converted into tissue heat.

The faradic current can be easily so attuned as to give any number of vibrations per second ranging from 30 to 3000. The faradic current must be constructed to meet physiological requirements, the current must start at zero, gradually increase in strength, then gradually decrease again to zero. This current must not reverse itself, it must not be a true sinusoidal; it must flow in the same direction throughout all of its curves.

Why Is the Sinusoidal Unphysiologic?

While sensory nerves carry impulses from the periphery to the center, motor impulses can only travel from the center to the periphery. In general practice we are apt to lose sight of the fact that all tissue, in fact, every cell, can only perform that particular function for which it was intended—it cannot perform any other and remain within the domain of physiology. Since it is our desire to aid in the restoration of physiological function, it is certain that in order to produce muscular contractions and relaxations, the artificial impulses produced by the faradic current must travel in the same direction, over the same route, as the normal impulses produced either in the brain or spinal cord. In other words, the positive electrode must be placed over the spinal origin of the nerve, while the negative pole rests over the muscle, tissue or organ to be affected. The direction of the current must never be reversed. The much-vaunted sinusoidal current is entirely out of place under these circumstances.

Conclusions

1. It is assumed that a correct diagnosis has been made of the primary cause, that this cause has been removed or compensated for; that the special treatment as demanded by each special case has been used prior to or in conjunction with general therapy.

2. A clinical diagnosis must be made first, later this may be confirmed by the laboratory.

3. The average chronic patient does not suffer so

much from his original disease as he does from perverted or arrested physiological function.

4. Our effort must be directed toward restoring to normal as near as possible the individual's physiology.

5. To do this requires the selection of agents capable of calling for the physiological responses.

6. These are primarily diathermia for its capillary effect, cocodillate of iron to overcome the anemia, sodium iodide to increase the leucocytes, these drugs to be given intravenously, a faradic current applied in a physiological manner for the purpose of tissue contraction and relaxation.

7. Treat the patient, but do not treat the disease.

8. Remember: It is not the agent, but the physiological response of living cells to an agent that must be our guide in therapeutics.

Gonococcemia and Metastatic Gonorrhea

Stressing Gonorrheal Arthritis

THE SECOND SECTION OF THIS PRACTICAL PAPER PUBLISHED IN THREE SECTIONS. THIS SECTION COVERS PARTICULARLY DIAGNOSIS AND PROGNOSIS. THE FIRST SECTION GIVING SYMPTOMATOLOGY AND PATHOLOGY APPEARED IN THE NOVEMBER ISSUE

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Diagnosis

Diagnosis must be made from acute rheumatism, gout ("rheumatic"), tuberculous arthritis, acute luetic synovitis, from acute arthritis of infants and Still's disease, acute epiphysitis in children, and various forms of septic and syphilitic ostitis, hypertrophic and atrophic arthritis. In children, acute epiphysitis may be confounded with gonorrheal arthritis, as may also various forms of septic and syphilitic ostitis.

The gonorrheal process is more gradual and milder than acute articular rheumatism, resolution is slower, is not common in women, and, as a rule, is less febrile than acute articular rheumatism. Cardiac complications are exceptional as compared to rheumatism. The joints affected are not so numerous and not typically jumping in character as in rheumatism. The disease frequently arises after painful instrumentation in cases of gleet and stricture. So-called articular rheumatism, occurring in pregnancy and the puerperium, is often metastatic gonorrheal arthritis, because pregnancy, labor and the puerperium favor the development of metastatic gonorrheal infection in women. In women, the wrist joint is most frequently affected, and in men, the knee joint (Nasse). There is less prostration and sweat, and less tendency to migrate from joint to joint, and the less frequent occurrence of endocarditis than in acute rheumatism, are important aids in the diagnosis. Blood cultures may show gonococci. The complement fixation test for gonorrhea would be positive and the gonococci could be found in smears. The history of a urethral discharge, being recently cleared up, would lead to a correct diagnosis of metastatic gonorrheal arthritis. Leucocytosis may be absent in gonorrheal conditions. Gonorrheal rheumatism shows a tendency to go on to recovery and may clear up in four to six weeks with any treatment. The salicylates do no good in gonorrheal arthritis, whereas if the case were a true articular rheumatism, improvement would take place under large doses of the salicylates. It has been suggested that vaccines be used in diagnosing obscure cases of arthritis of suspected gonorrheal origin.

In children, joint tuberculosis can be differentiated by the usually slow advent of the condition, absence of great tenderness, swelling or redness—but rather a doughiness is present. There is early rigidity of muscles and fixation of the joint in tuberculosis. The presence of vulvo-vaginitis or ophthalmia neonatorum or a urethritis and the discovery of the gonococcus in the effusion, would settle the diagnosis. In children, in gonorrheal osteo-arthritis, bone rarefaction can be shown by the X-ray very early, even in the first few days. If there is no rarefaction, the disease has probably settled within the capsule.

Park and Krumwiede conclude that the non-specific response to vaccines is of importance in gonorrheal infections, and that a reaction following gonococcus vaccine is of therapeutic value. Also, that a positive focal reaction is not only of value as a guide to dosage, but is of diagnostic importance; the absence of reaction is not.

Aspiration of fluid may give information of the

greatest therapeutic and diagnostic value. Gonococci may be obtained from the aspirated fluid. Cabot urges that all monarticular infections of any seriousness or obstinacy should be tapped.

The age of the patient is important. Most of our patients are young men between eighteen and twenty-five.

Hypertrophic Arthritis

Hypertrophic arthritis does not attack the hip, knee, ankle, sacro-iliac joints, etc., in a man of twenty or twenty-five. In the hip joint, hypertrophic arthritis constitutes malum coxae senilis, leaving young men unscathed. Arthritis deformans may, in some cases, cause some errors in diagnosis—at the time of acute exacerbations, or in cases of a recent or chronic urethritis and leucorrhea.

Atrophic arthritis might involve these large joints in a young man, but always involves other joints as well, especially those of the hand, and it is very prone to be symmetrically distributed—e. g., both ring fingers, both feet, both wrists, both hips, etc. However, if a young man has subacute or chronic pain in both feet without evidence of flat feet, gout may be suspected. Of course, a gouty person may have gonorrhea. It is also true that a patient having a four plus Wassermann may also have an arthritis due to a previous gonorrheal infection; in such an instance the gonorrheal fixation test would also be positive.

Irons (*Archives Internal Medicine*, Vol. I, No. 4, p. 433) states that the injection of one-half billion killed gonococci into the tissues of a person free from gonococcal infection was found to cause practically no constitutional disturbances in eight cases. In infected cases, however, results were quite different. Within twenty-four hours, and corresponding to the negative phase, there was increased articular pain, rise in temperature, and general malaise. It was therefore suggested, because of the pronounced reaction, that the injection of killed gonococci be employed as a diagnostic agent in cases of doubtful gonococcic infection.

In gout the patient is probably a middle-aged man, living well rather than wisely, getting a sudden attack of pain, especially in the great toe, ankle, knee or wrist. The swelling of the toe is the most characteristic; the metacarpo-phalangeal joint is tensely swollen, livid and glossy, and he may have gouty tophi around the small joints and in helix of ear; there is no recent history of gonorrheal urethritis.

Infectious arthritis must be ruled out in a septic arthritis. The history of the case, the presence of a focus of infection, caries, osteomyelitis, or some recent acute infectious disease like typhoid fever, pneumonia, or scarlet fever, will help to clear up the diagnosis. Meningococcic and pneumococcic arthritis must also be excluded.

Sex — Joint Predilection

Women are singularly exempt from gonorrheal arthritis; the female sex escapes almost entirely (adults).

Many cases are diagnosed as chronic rheumatism, neuralgia, neuritis, etc., attributed to focal infections of the teeth, sinuses, tonsils, yet are due to gonorrheal infection, recent or remote. In the differential diagnosis, one must remember, too, that a gonorrheal infection may occur in a rheumatic patient; a person having gonorrhea may also develop an acute (articular) rheumatic fever (polyarticular rheumatism). However, in cases where only a limited number of joints are involved, without migration and associated with a urethral discharge containing the small, round or oval gonococci of Neisser and Bumm in the pus cells easily stained with the alkaline solution of methylene-blue, and their failure to stain by Gram's method—with or without endocardial involvement and the possible implication of the sterno-clavicular or tempero-maxillary or vertebral articulations, make the differential diagnosis between gonorrheal and articular rheumatism an easy matter.

Finally, gonorrheal rheumatism does not, as a rule, give rise to very acute constitutional disturbance—this is usually a transient one only. It is more or less fixed, and has little tendency to change its locality; the tendency to become multilocated is not marked, and there is only a slight tendency to cardiac complications. Of course, there rarely may be a pericarditis, myocarditis, and endocarditis, or even a pancarditis. Be that as it may, "gonorrheal rheumatism" is a bad term and should be abandoned.

According to Northrup, Finger, Benecke, the knee, ankle, wrist, elbow, shoulder, hip, small joints of hands, small joints of foot, heel and toes, tempero-maxillary, and sterno-clavicular articulations were affected in the above order of frequency; out of six hundred and fifty-five articulations involved, the knee was involved two hundred and fifty-eight times, the ankle one hundred and twenty-five and the wrist seventy-six times.

Bacteriology and Immunity

Gonococci can be grown best on Vedder's medium (ordinary beef infusion agar—1.5% agar, to which 1% cornstarch is added), or Wright-Steinschneider's medium, consisting of urine, human or bovine blood serum and nutrient agar-agar, or Lipschutz's medium, made with nutrient agar-agar or ordinary bouillon and pulverized egg-albumen called "egg-albumen agar" or "egg-albumen-bouillon" medium, on which micrococcus gonorrhœæ grows very satisfactorily. The micrococcus gonorrhœæ is differentiated from the more common pyogenic organisms by certain peculiarities—1, in gonorrheal pus, it is nearly always within the protoplasmic bodies of pus cells; 2, it stains readily with the ordinary staining reagents, but loses its

color when treated by Gram's method; 3, it is not pathogenic for animals—such as are ordinarily used in the laboratory, and is without pathogenic properties for horses, dogs, and monkeys, etc.; 4, it is practically always seen in the form of diplococci, the pair of individual cells having the appearance of two hemispheres with the diameters opposed, and separated from one another by a narrow, colorless slit; 5, it does not develop upon any of the ordinary nutrient media and is isolated in culture through the employment of special methods, all including some nutrient substance supplied by blood or blood serum; 6, Wherry and Oliver (Forcheimer's—Ernest E. Irons), *Journal of Infectious Diseases,* 1916, XIX, 288, say it is a micro-aerophile or partial tension organism (grows best when placed under conditions of partial oxygen tension).

Specific Therapy

Dr. B. C. Corbus, of Chicago (*J. A. M. A.*, 5-9-1914), reported a series of twenty-four cases treated with antigonococcus serum. He recommends 36-45 c.c. as the dose; he gave his patients the serum intramuscularly, but believes that intravenous administration would be followed by more rapid recovery with a possibility of using less serum.

Block (*Cor.-Bl. f. schweitz. Aerzte,* 1914, XLIV, No. 44) saw improvement in gonococcal arthritis following the injection of typhoid vaccine, as well as following gonococcal vaccine, and suggests that the improvement may be due to non-specific effects of the reaction on gonococcus infection.

A man can usually not be reinfected by a woman upon whom he has conferred the disease. The gonococcus only confers a relative immunity to the person who harbors it. Relapses of a given attack are less severe than the initial attack. No immunity, or a very slight one, exists after a cured attack. Subsequent attacks are milder, though they may be even more complicated, than the initial attack.

Prognosis

In the severe cases, there is more apt to be a pararticular infiltration and serious joint disability. Cases may be mild and result in no disability whatsoever. There is a tendency to form adhesions, contraction of joint appendages, and surrounding muscles. An osteo-arthritis may occur. At the beginning, there is a focus with an area of rarefaction around it, or a diffuse infiltration of the articular end of the bone. The infection may spread rapidly to the joint surface itself, and thus destroy the cartilage and invade the interior of the joint, the joint involvement being secondary in osteo-arthritis. These cases may go on to resolution, without loss of joint motion. Osteophytes and spicules and other thickenings of the periosteum, as a result of proliferation, may take place and thus limit motion. Complete bony ankylosis may result in cases where the cartilages are completely destroyed. Bone rarefaction appears, as a rule, within the first few days of an osteo-arthritis, and never appears in arthritis at any stage—the X-rays, therefore, are very useful. With an absence of rarefaction and presence of arthritis alone demonstrated, one can be reasonably certain that there will not be any bony destruction or bony ankylosis. Where rarefaction is present, the prognosis is not good—bone destruction and some permanent disability is sure to result, because of a primary bone focus of infection. In the worst cases, arthritis alone may at times end in fibrous ankylosis.

I wish to report a few cases of metastatic gonorrhea and emphasize a few points in the treatment and diagnosis of this disease:

Case I—Young man. Negative family history. Had second attack of gonorrhea for three weeks, when he developed fever 100°-103°; chills; became nervous and restless, and had severe pain in the hip and wrist. Previous medical history negative. Wassermann test negative. Blood complement fixation test for gonorrhea was positive. Urethral smears showed gonococci. Widal and malarial smears were negative. Secondary anemia present R. B. C. 4, 160,000, Hb 75%. This was a case of gonococcemia with severe arthritic pains. Gonococcus vaccine and antigonococcic serum given subcutaneously and intravenously gave prompt relief.

After the antigonococcic serum and mixed gonococcus vaccine were stopped, and while he was in the hospital, he developed a marked inflammation of the *knee*, which I believe might have been prevented by the continued use of the vaccine and serum.

Case II—June 7, 1917. M.C. Little girl. 3 years old. Father had an acute gonorrhea—mother gave positive smears. Father's Wassermann was negative Shortly after their return from a vacation period, the child developed a yellowish vaginal discharge and this was quickly followed by enlargement and painful swelling of joints of wrist and little (right) finger. There was a slight rise in temperature. The condition existed for several weeks when the child was first seen by me. I found gonococci in the smears, and ordered argyrol in solution and in 10.% ointment for the local condition. The injection of polyvalent gonococcus vaccine (combined), gave rapid relief—followed by a cure of the arthritis and the vulvo-vaginitis.

Case III—Mr. B. Acute gonorrhea. Beginning of third week, developed a marked swelling of wrist, and ankle joints, later the elbow and knee became affected. He tried to treat the urethritis himself, with various remedies purchased at drug stores, and when he came to me the urethral discharge was free and his wrist and ankle joints were badly inflamed. After a long stormy convalescence, he finally recovered. Treatment consisted chiefly of the injection of argyrol solution for the urethritis, prostatic massage and the use of huge doses of vaccine. No serum was used in this case. I now believe that had large doses of antigonococcic serum also been given, he would have improved much more rapidly, and it is possible that the later involvement of knee and elbow joints would have been prevented altogether.

Case IV—G. L. January, 1918. Age 43. Had gonorrhea twice. Pains in head and joints. Wasserman negative. Prostate enlarged and tender. Complement fixation for gonorrhea positive. Proctoscopic examination showed fissure in ano. Blood P.—S. 128, D. 76. Heart and lungs, negative. Urine, negative. X-ray head, negative. Prostatic massage and vaccine gave him prompt relief and ultimate cure, after he had gone about without a correct diagnosis and without obtaining any relief for over two years. In this case the examination of the prostate and the blood complement fixation test for gonorrhea cleared up the diagnosis. His prostatic condition was no doubt the focus of infection causing his trouble.

The *complement fixation* test is most valuable in systemic gonococcus infections; the result is positive in all such cases. If there is a history of gonococcic infection no matter how remote, employ this test, when the diagnosis is in doubt.

Case V—Mr. Valentine Y. Age 44. White Polish man, well built and robust in appearance. Sick for the past four or five weeks. Had a severe toothache four or five weeks ago with an abscess swelling from a decayed lower left molar. This tooth and a neighboring tooth were extracted a few days ago. The tooth abscess began eight or ten days ago. Says he never had rheumatism and denies venereal disease. Married 24 years. Two children were born during the first two years of married life. One died at nineteen months and the second died a few minutes after birth. Wife has not been pregnant since. Has been working in leather factory, handled lime and raw hides.

Examination. Man very toxic. Markedly dyspnoeic. Appeared very dangerously ill from some septic condition. Lungs moist, heart sounds feeble, endocarditis and threatening pulmonary edema. Mouth in bad condition. Right shoulder and left knee swollen and tender. Says the left shoulder began to pain and swell eight days ago, then the left knee began to swell and pain several days later. Right parotitis present, says swelling began three days ago. Has had chills, fever, sweats, every day, several times a day for the past two weeks. No urethral discharge evident. Prostatic examination practically negative except for some tenderness on pressure No smear obtained for examination: Urine: albumin present, sp.gr. 1.017. Total solids 37.6 gms. per liter. Amorphous urates present. Many pus cells, huge numbers of granular casts, no sugar, no acetone, no indican, acid reaction. Two Wassermann blood tests negative. Complement for fixation of gonorrhea positive. Blood cultures by two laboratories have so far shown no growth. W. B. C. 38,600, Polymorphonuclears 85%, S. M. 13%, L. M. 2%.

There was no evidence of external or internal anthrax, neither pulmonary nor gastrointestinal anthrax. The conditions found and contributing to the man's serious illness and death were general septicemia (gonococcal), endocarditis, septic arthritis, parotitis, pulmonary edema. I first saw the man about 20 hours before his death. He received combined gonococcal and streptococcal vaccines and intravenous injections of serum. For the pulmonary edema and the cardiac dilatation he received atropine with adrenalin and digalen, digitan or digifoline. He was also given alkaline water to drink.

Whether the condition of the mouth and teeth had anything to do with the man's illness in this case is difficult to say. He had a marked leucocytosis and a positive complement fixation test for gonorrhoea, with the condition of the heart, left knee and right shoulder and the parotid gland as mentioned above, without any history of previous attacks of rheumatism, sore throat, or trouble with the mouth or joints, leads one to believe that this was probably a case of metastatic gonorrhoea and gonococcemia.

Keratosis Blennorrhagica (Gonorrheal Keratosis)

Not many instances of this condition have been reported during the past five or ten years. McDowell (*N. Y. M. J.*, May 3, 1922) recently reported a well defined case in a man who had had three attacks of gonorrhea. He had pains in the right hip and ankle joint. There were a number of *elevated crusts, waxy* in appearance, on the right knee, thigh and hip and left leg and back. *McDonagh's* colloidal therapy (intramine) was used with good results.

Wadrack in 1917, was able to demonstrate a few gonococci from lesions of his case.

Lundie speaks of two forms—the localized, involving the feet and hands, and the generalized. Vidal (1893), Turnbull and Sequeira (1910), Simpson (1912), Haase, Wadrack, Buschke, Baermann, Roth, Graham Little, Brown and Davidson (1918), and others have reported cases of this condition.

According to Stelwagon and Gaskill (1921, Page 553, Ninth Ed.), Vidal was the first to describe this rare condition.

Spontaneous involution of the eruption takes place with the subsidence of the arthritic symptoms. Simpson found sulphur and resorcin in ointment beneficial. Sequeira used *gonococcal vaccine* with favorable results.

In this condition the palmar and plantar epidermis may become quite thick, with irregular and uneven horny-looking, waxy or brownish crusts or projections. There may be some large waxy nodules, and horny capped postules. The eruption may involve the hands only, or both hands and feet. There is very little if any hyperemia.

Costa and Garcia (Jour. de Radiologie et d'Electrologie, Paris, Feb., 1921, p. 49), in their paper on "Gonococcus Rheumatism," state that in cases of *chronic gonococcus arthritis* the roentgenograms show that the tendency of the bone is to osteoporosis, just as tuberculosis tends to necrosis.

CONCLUDING SECTION

The third and concluding section of Dr. Goldstein's paper dealing with treatment and giving a very extensive list of references will be published in the January issue.

The Best Health Servic

Proper Recognition of the Fundamen

THE GENERAL PHYSICIAN

The Service of the General Physician Cannot Be Adequately Performed by Any Other Agency

"IT'S BETTER TO BUILD FRIENDSHIPS THAN BATTLESHIPS," says Sir Harry Lauder. For twenty-seven years we have been doing that, you and this publication, and we are getting to feel more and more brotherly with the Medical Profession as the years go by. And now the time has come to renew our mutual pledges of friendship, as subscribers and publishers must do if they really serve each other, for 1923 is just around the corner. We want to set forth our plans and specifications for the 1923 AMERICAN PHYSICIAN and build—with *your* help—a more enduring tower of friendship than was ever built before in medical journalism. Medicine in the abstract is well-represented in many medical publications, but THE AMERICAN PHYSICIAN represents the *Medical Man* in the concrete.

Mission of Service

THE AMERICAN PHYSICIAN'S mission of service is to reassert the fundamental importance of the general physician. We are in a time of medical change—old landmarks are passing and a reorganized form of medical service will, without question, be developed. This publication believes the nucleus of any efficient and lasting medical service must be the general physician.

The Public Is Not Satisfied

The public is not getting the service from the medical profession that satisfies it, regardless of what the medical profession may think. That is why certain pseudo-scientific cults like chiropractic make headway. While recognizing the true value of surgery, unnecessary "cutting" will be tolerated less and less. The present fad—specialist group practice—is not the answer. While there is a core of good constructive thought in it, which will remain after the glamour of a new fad has gone, there is very great danger of the idea being overdone.

Passing the Patient Around

Any idea in group practice which competes with the general physician, we feel, is wrongly based. The great constructive place of the general physician cannot be taken by a group of specialists passing a patient around among them, each one interested in his particular pet specialty and no one interested in the organism as a whole—in the individual patient and his well-being. The general physician is the vital link between patient and specialist; he must manage the case.

Building Technic Rather Than Its Human Application

DOCTOR, DID YOU EVER think over the present situation in medicine and come to a realization of the fact that medicine itself is not losing out, is not degenerating, is not failing to meet the needs of the times, and is not losing in popular esteem? It is the present inadequate *Human Side* in the *application* of medicine that is under fire, just as it is this same human side that is the trouble in industrial, racial, governmental and social relationships. The head of the world has marched ahead of the heart, the intellect has outstripped the understanding, and we are studying problems instead of *Men*. Building battleships has spoiled us for building homes, and —even in medicine—we have been building technic rather than human application of the same in friendship and love of the race.

WE MAY BE A BIT OLD-FASHIONED, for we

The Human Side of the Application of Medical Science
Is Being Buried Under Mountains of Technic.

ır the People Demands

ortance and Fundamental Position of —

remember the Doctor as he used to be and as he may be again—a balanced, dignified and lovable Man who really *knew* his patients, not merely some one specialized phase of their diseased organisms and their ratings in Bradstreet's.

THERE'S AN AWFUL LOT OF GOOD in the things that have so upset us and the profession at large: don't forget that fact for a minute. The slipshod way of practicing medicine that the public is tired of is destined to extinction, but the public is also tired of having to be passed from specialist to specialist, card-indexed, surveyed, and treated as so much "material," when in need of medical service. No wonder some very human but pseudo-scientific cults are flourishing. There's too much instrumentation, too much operating, and too little general care based on painstaking physical examinations and sound sense. And the public knows it, despite its admiration of what preventive medicine and research have done and are doing. It feels it is being exploited by specialists, group clinics and faddists, and that much of the contact of modern medicine with sick people is wrongly based, is pretentiously commercialized, in fact, if not in name, and the people are getting ready to *demand* that the General Physicians take charge again and give sick and injured humanity a square deal.

The Central Nucleus

THE GENERAL PHYSICIAN is the one who knows the patient as a whole, who is cognizant of all developed disease conditions and many threatened ones, who knows the individual characteristics and idiosyncrasies of his patient, and he it is who should decide upon any surgical or special intervention and manage the situation, from the hygiene that keeps the organism properly functioning to the radical intervention needed in emergency. Around *him,* as a *central nucleus,* all medical service should be built, from preventive medicine to the special technical skill needed in regional surgery and special treatment.

A Sound Basis for 1923

IN 1923 we are starting special efforts to regenerate and place on a sound basis the up-to-date form of general practice the public is demanding. It is high time to reassert the proper position and prestige of the General Physician. We will not do this simply by propaganda, and least of all by printing ill-natured or carping articles. We side right in with all of the proper aspirations and efforts of organized medicine, which is, latterly, moving in the same general direction we have long been advocating. *We* will print original papers and editorial and other comment of a nature to aid the General Physician in taking the place the logic of events and the tendencies of the times are fast preparing for him. Doctor, remember the parable of the five wise and the five foolish virgins; put plenty of oil in your lamp and keep it trimmed and burning. Let us help you to do these things.

The Following Are Some of the Splendid Papers to be Published During 1923

Medicine

Non-Specific Ulcerations of the Genitalia, by N. E. Aronstam, M.D.

Treatment of Aortic Diseases of Syphilitic Origin, by W. Busch, M.D., D.Nat.Sc., and E. Ahlswede, M. D., Germany.

Some Aftermaths of the Influenza Epidemic, by P. F. Carlucci, M.D.

Rectal Findings in Mucous Colitis, by E. Jay Clemons, M.D.

Some Experiences With Transduodenal Lavage, by F. Ellsworth Clow, M.D.

Post-Operative Pneumonia—With Report of Cases, by M. L. Dalton, M.D.

The Causes and Treatment of Constipation, by Atwater L. Douglas, M.D.

Syphilis of the Rectum, by Charles J. Drueck, M.D.

The Modern Treatment of Tetanus, by G. S. Foster, M.D.

(Papers for 1923 Continued on Following Two Pages)

The General Physician Is the Man to Manage the Case

Around him, as a central nucleus, all medical service should be built

It Is High Time

The Proper Position

Splendid Papers to be Published During 1923

(Annual Announcements Continued from Preceding Page)

Goitre Classification and Treatment, by Drs. E. B. and N. W. Gillette.
"Obesity," by Hyman I. Goldstein, M.D.
Deviations in Blood Pressure, by D. S. Hanson, M.D.
Phlebitis—General Considerations, by Parran Jarboe, M.D.
The Trail of the Flu, by T. A. Jones, M.D.
Pyelitis, by I. Russell Kuhn, M.D.
The Rôle of the Heart as an Etiological Factor and Therapeutic Agent in Pulmonary Tuberculosis, by Henry I. Leviton, M.D.
Some Recent Advances in the Treatment of Inoperable Cancer, by Jacob J. Levy, M.D.
Care of the Heart in Middle-Aged Individuals, by A. C. Morgan, M.D.
Clinical Results Following One Thousand Non-Surgical Drainages of Pathologic Gall-Bladders, by G. M. Niles, M.D.
The Treatment of Malaria on Plantations, by Albert J. Ochsner, M.D.
Fecal Impaction, by C. M. Rickert, M.D.
High Blood Pressure; Significance of Its Changes and Suggestions as to Management of the Cases, by DeLancey Rochester, M.D.
Unusual Cardiac Cases from a Clinical Standpoint, by Bruce Snow, M.D.
Disturbed Liver Functions in General Practice, by B. W. Stearns, M.D.
The Body's Defenses or How Nature Prevents and Cures Diseases, by J. W. Torbett, B.S., M.D.
The Relation of the Thymus Gland to Thyrotoxicosis, by I. S. Trostler, M.D.
Etiology and Treatment of Erythema Nasalis or Red Nose, by J. C. Warbick, M.D.
Circulatory Disorders from Disuse of Vigilance—Disuse Cripplings as Affecting the Blood Distributing and Accessory Mechanisms, by J. Madison Taylor, A.B., M.D.

Pediatrics

The Spasmophilic Child, by J. D. Leebron, M.D.
Epidemic Encephalitis in Children, by Josephine B. Neal, M.D.
X-Ray Studies of Cardiac Diseases in Children, by C. W. Perkins, M.D.

Therapeutics

A New Mercurial for the Treatment of Syphilis, by A. B. Barker, M.D.
Treatment of Burns and Leg Ulcers by Heliotherapy, by O. S. Brown, M.D.
Proper Selection of Drugs for Individual Cases, by Elnora C. Folkmar, M.D.
Use of Psychology in Therapeutics, by A. W. Herr, M.D.
Asthma; Its Prevention and Treatment, by Nathan H. Hornstine, M.D.
Digitalis and Heart Disease, by C. F. Morsman, M.D.
Benefit Derived from Water Treatment in Consumption, by Edward Podolsky.
Mexican Bitter Bush in Amebic Dysentery, by Albert Schneider, M.D.
Auto-Therapy; Its Field and Technique, by T. M. Stewart, M.D.

Ophthalmology, Laryngology, Rhinology and Otology

The Clinical Picture of Interstitial Keratitis, by Aaron Brav, M.D.
Submucous Resection of the Septum of the Nose, by F. A. Grafe, M.D.
Tonsils—Indications for and Against Removing Them, and Points of Importance to be Observed during Tonsillectomy, by A. W. Kerr, M.D.
Some Aspects of Nasal Sinus Disease, by William A. Hitschler, M.D.
Defects of Teeth and Naso-pharynx: Their Relation and Importance, by Dwight M. Lewis, M.D.

Dermatology

The Circulation in Diseases of the Skin, by S. C. Parsons, M.D.
Skin Eruptions from Gastro-Intestinal Disturbances, by A. Ravogli, M.D.

Diagnosis

The Graphic Chart in Heart Disease, by Louis Faugeres Bishop, A.M., M.D., Sc.D., F.A.C.P.
The General Practitioner and His Laboratory, by F. Ellsworth Clow, M.D.
Diagnosis of Gall-Bladder Disease, by C. W. Delancey, M.D.
Appendicitis Simulating Disease in the Upper Right Quadrant, by Samuel Floersheim, M.D.
Diagnostic Considerations in Surgical Affections of the Stomach, by A. Wiese Hammer, M.D., F.A.C.S.
The Early Diagnosis of Pulmonary Tuberculosis by The General Practitioner, by Clair B. Kirk, M.D.
Bedside Diagnosis of Abdominal Crises, by D. A. Smith, M.D.
The Clinical Significance of the Wassermann Reaction, by Burton Peter Thom, M.D.

Economics

The General Physician and His Equipment for the

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Care of His Patients, by W. Fletcher, M.D.
The Social Side of Medical Practice, by Jos. Lebenstein, M.D.
An Outline of a Group Clinic, Its Equipment and Its Work, by L. F. Long, M.D.

Public Health

The Prevention of Tuberculosis and Its Recurrence, by Leon DeVills, M.D.
Tuberculosis Control, by W. R. Rand, M.D.
Studies of Social Hygiene and Diseases, by J. Shanks, M.D.
Louisiana Physicians' Work in Developing the Idea of Transmission of Disease by the Mosquito—A Brief Historical Sketch, by George H. Tichenor, Jr., A.B., M.D.

Surgery

Local Anesthesia, by A. L. Blesh, M.D.
Series on "The Relationship of Internal Medicine and Neurology to Accidental and Traumatic Surgery," by G. F. Boehme, Jr., M.D.
Chronic Appendicitis, by J. U. Fauster, M.D.
Kidney Tumors, by Hyman I. Goldstein, M.D.
Paget's Disease of the Bones (Osteitis Deformans), by Hyman I. Goldstein, M.D.
An Unusual Case of Bi-Lateral and Ureteral Calculi, by C. M. Harpster, Ph.G., M.D., F.A.C.S.
Liver Abscess, by T. H. Kelley, M.D.
Visceral Syphilis with Surgical Manifestations, by Charles F. Kuhn, M.D., F.A.C.S.
Delayed, Dilated and Infected Urachus, by H. S. Lott, M.D.
Worthless Appendix Operations, by Robert T. Morris, M.D., F.A.C.S.
Intestinal Adhesions and Their Surgical Treatment, by J. Shanks, M.D.
The After-Care of Industrial Injuries, by .Irving David Steinhardt, M.D.
The Prepuce, a Useless Appendage; An Instrument for Its Removal, by Chester Tilton Stone, M.D.
Diagnosis and Treatment of Spinal Abscesses, by James K. Young, M.D.

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Some Neurological Problems, by G. F. Boehme, Jr., M.D.
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Treatment of Mental and Physical Conditions in Infants and Children, by Leo Huth, M.D.
A Consideration of Neuritis and Myalgia, by E. J. Lorenze, M.D.
The Rational Treatment of Facial Paralysis, by William Martin, M.D.
Pathological Psychology and Insanity, by Charles E. Remy, M.D.

General

A Physical Evil of Greatest Magnitude Not Only Ignored by the Medical Profession, but Created and Augmented by Medical Practice, by H. W. Champlin, M.D.
Results of a Research on Tobacco, by J. T. Denton, M.D.
What Will the Morrow Bring Forth? by J. H. Dowd, M.D.
The Value of Studies in Nutrition for the Asthenic, by E. E. Fisher, M.D.
Single Track Practice, by Frederick D. Keppel, M.D.
The Call of the Minister and Physician in the Control of Juvenile Delinquency, by Mayer Shoyer, M.D.

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More Footlights on the Feet, by C. V. Cross, M.D.
A Talk on Weak Feet, by Irving David Steinhardt, M.D.

Obstetrics

A Report of a Case of Eclampsia, by Alfred Brown, M.D.
Obstetrics is Surgery, by H. S. Lott, M.D.
The Duration of Obstetric Attention, by J. S. Raudenbush, M.D.

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Therapeutic Effect of the Radiant Wave—a Special Type of Monopolar High Frequency Current, by Elnora C. Folkmar, M.D.
Physiological Therapy in the Chronic Stage, by Albert C. Geyser, M.D.
Radio-Therapy in Gynecological Conditions, by J. J. Levy, M.D.
Focal Infection with Special Reference to the Interpretation of the Dental Roentgenogram, by W. A. Price, M.D.
Tonsil Fulguration Better than Tonsil Operation, by T. M. Stewart, M.D.
X-Ray Treatment of Uterine Hemorrhage and Fibromyomata, by I. S. Trostler, M.D.

Gynecology

Conservative Gynecology, by D. W. Basham, M.D.
Treatment of the Cervix Uteri, by Frank R. Fursey, M.D., C.M.
Medical Gynecology, by Charles Mazer, M.D.
The Repair of Perineum from a Gynecologist's Standpoint, by H. E. Myers, M.D.
Leucorrhea and Its Treatment, by Joseph Shanks, M.D.
Office Gynecology, by Thos. J. Watkins, M.D.

The General Physician Is the Man to Manage the Case

Around him, as a central nucleus, all medical service should be built.

Tuberculous Abscess of the Chest

Report of Case

By Louis W. Juergens, M.D.
Milwaukee, Wis.

A YOUNG LADY of twenty, Miss S., consulted me on March 12, 1910. She had begun to suffer from an abscess in the chest wall about a year previous to my seeing her. The abscess was located on a level with the third and fourth ribs a little to the left of the sternum. Sometime later it had opened spontaneously several inches lower down, directly under the place of origin. Her general health was considerably impaired. She had lost fifteen pounds in weight and looked quite anemic.

I advised the patient that her case would have to be treated surgically. She readily consented to this. The surgeon to whom I referred her corroborated my diagnosis of tuberculous abscess and decided to operate. On March 15 the operation was performed. A semi-lunar flap was cut and deflected to the left side of the chest, fully exposing the entire area involved by the abscess. The disease process involved the sterno-costal cartilage and neighboring structures. Every particle of the pathological tissue was thoroughly removed as far as could be determined. The wound was closed with the exception of the most dependent part, which was left open to provide for drainage.

The after-treatment consisted of cleansing the wound daily and packing it with iodoform gauze and balsam of peru covered by sterile gauze and absorbent cotton. The patient took a tonic of quinine, iron and strychnine, breathed fresh air by day and by night and ate good nourishing food. Sufficient exercise and a daily bath were also advised. Despite this truly tonic course of living, the suppuration showed no signs of abating at the end of seven or eight weeks. I reported this to the surgeon and a curettment of the wound was suggested, but no date fixed for this procedure.

The Copper Treatment

Considering the patient's delicate state of health and listening to her entreaties to be spared this ordeal of another anesthetic and the attendant loss of blood without any positive promise of cure, I felt induced to consider whether something else could be done to help her. My attention had been called to the antiseptic properties of oxychloride of copper, evidence of which I had personally observed in my gynecological work. Considering it quite feasible to carry out similar treatment in the case under discussion, I once more conferred with my friend, the surgeon, submitting my plans to his judgment.

Having ever the patient's best interests at heart, he encouraged me to give this method a trial. My patient also readily consented. The treatment was carried out in the following manner:

I took a copper wire, bent it upon itself and inserted the ends in a needle holder for electrolytic work. The loop was about three inches long and bent in such a shape that it readily entered the sinus full length. This holder and copper wire were attached to the positive pole of a galvanic battery. A large pad, about 8 inches in diameter, was fastened to the negative pole, moistened with water and placed under the patient's back, opposite the diseased area. Before inserting the copper wire it was wrapped with moistened absorbent cotton to prevent its sticking to the walls of the sinus.

If the bare copper wire is used, the current must be turned off at the end of the seance and then reversed for a few minutes to free the electrode. With both electrodes in place the current was slowly turned on, taking the feelings of the patient as a guide, to the strength of about 8 or 10 milliamperes. The treatment was given for ten minutes each day, followed by the usual dressings.

The promptness with which the wound now healed under the influence of this antiseptic was most gratifying. There has been no recurrence of the trouble and the patient has remained in good health ever since.

Brief Notes

"A prompt diagnosis is half the battle of disease."—Osler.

Exfoliation and pitting of the nail cortex if of many months' standing, and without involvement of the matrix, is never mycotic in origin; old cases of onychomycosis invariably show some involvement of the matrix.

Treatment of syphilis in the second and third years, particularly, should be of a supportive type as well as specific. The essential feature is to increase tissue resistance. With increased resistance specific therapy is much more potent.

Most sexual neurasthenics are nearer suicide than we suspect. Do not laugh at their fears and dismiss them from your office. They need help. Give it to them. These patients should be handled with patience and given treatment of a definite character.

Remember that the bladder may be the site of a syphilitic lesion. Especially in the case of a known syphilitic this possibility should always be borne in mind.

Efficient Organization of Medical Practice

THE GENERAL PRACTITIONER IS THE FUNDAMENTAL FACTOR IN EFFICIENT MEDICAL SERVICE

While surgery, the specialties, hospitals, institutional medicine, public health work, industrial medicine, etc., have their definite functions, if the best health interests of the people are to be served, the primary importance of the function of the General Practioner must be recognized. Other divisions of medical service must be properly coordinated in constructive co-operation with the essential service of the Family Physician. This is an integral purpose of The American Physician.

Should Minimum Standards Be Established for Private Hospitals?

Should Not Private Institutions Be Placed Under the Same Inspection as Public Ones?

STANDARDIZATION of hospitals is agitated, and with regard to public institutions it is easy of attainment, for they seek public appropriations and are inspected, but it is vastly more needed in private hospitals, sanitariums, sanatoria, etc., for they run much as they please and are not inspected. The writer is in position to know the inner workings of a large number of both public and private hospitals and institutions and gladly records the fact that vast improvement has been made in the institutions and their personnel within the recent past, and improvement quite as marked in the better grade of private establishments as in the public ones has been especially noted.

Nevertheless there are private institutions that are a disgrace to medicine, some of them housed nicely, but terribly run down in personnel and management. Formerly high-grade and well-conducted, there are private hospitals living on their established reputations, built up by former good management, but are now in new hands that know nothing about hospital management. Hospital management has to be learned, just like any other profession.

Recently complaint was made about a small, private hospital and it was investigated, with the result that it was ascertained that the medical superintendent, the matron and the chief nurse are *all drug addicts*. No wonder things went wrong there. In another small hospital the exceptionally large purchases of liquor led to inquiry, and it was found that the staff members were tipsy half the time—not really drunk, but certainly *not* fit to operate. Of course, these are extreme instances.

Cults in Private Hospitals

We have heard of two private hospitals where the main reliance is in osteopathy and chiropractic, while posing as *general* medical and surgical institutions. In another hospital the stress is laid on a modified Christian science, and it is worked in on every occasion. We have personally encountered hospital nurses who are Christian scientists *diligently undermining medicine* while working under physicians. Doctor, do you want to send your patients to places where they are under care of such cultists? Fortunately, this sort of thing has not gone far, but the time to nip it is *now*.

Fake Treatments

More or less fakery is worked in by one-sided or commercialized physicians who want to *exploit some secret or semi-secret remedy* to boost in an advertising campaign later on. Some of these men deceive hospital managements that are eminently well meaning and who are humiliated when they find out what has been going on under their noses and without their knowing it until some physician writes in a complaint. These men make a business of worming in to private hospitals, and then boring from within after they are there. Of course, they don't last long after discovery, but they care little, for they have attained their real object, starting another cancer cure, or consumption cure, or what not, to exploit individually outside. Rarely is the medical management directly responsible; they are imposed upon.

The Remedy

Place private institutions under the same inspection as are public ones, and this would not be hard to do, for nearly all of the managers of private institutions are honorable people and would welcome proper inspection; and they know it would pay them in the long run. Minimum standards for private institutions should be established, and those below standard should be brought up to it or closed.

The Patient First

The Clinical Golden Rule

ARE WE IN DANGER OF NEGLECTING THE HUMANITIES WHEN PATIENTS ARE HANDLED IN BULK?

THE PATIENT is under ether, and you are tempted to pause and elucidate a point to your colleagues standing by. The point may be very interesting, but commenting on it prolongs the operation three or four minutes. Doctor, don't do it; make the patient first.

Your large class loves to view a spectacular operation in the main amphitheater, and your patient is in Ward 6, over three hundred feet down a long and cold corridor to be traversed twice. Doctor, don't risk it; take her to the small operating room, twenty feet away through a warm room. Make the interest of the patient first.

You have twenty heart cases in the ward and you are ever so anxious to try out quinidine and publish findings. Wait, Doctor, wait! Those who do not progress under digitalis and careful case-management may be cases in which you are justified in tentatively trying out a new and often dangerous drug. The patient comes first.

You may be most anxious to try out a podalic version in a tardy labor. Don't! Let the patient do the laboring and you do the waiting. Perhaps Nature will do a better job than you will, and certainly a safer one. You will know without speculating over it when a podalic version is necessary to the interest of the patient. Why do it in your own interest? Of all patients, the woman in labor comes first.

You are not absolutely sure about that case in whom you suspect appendicitis, and you don't like the nearest surgeon consultant anyway, so you wait for an increase in temperature and put off a consultation. Don't do it, for it may be a fulminating case and the patient die before the thermometer shows much change. Remember, the interest of the patient comes first—always first.

The Other Doctor

Your patient is on the operating table, all trussed up and covered with sheet and blanket and towels, and you are sweating over the tedious details of a nice plastic operation with lines of concealed sutures. You forget all about the passage of time; and, in fact, you forget about the patient in the worry over a neat job. But the other physician, who is giving the ether, is worried also; he is worried about the patient, for the heart wobbles and respiration is bad. From time to time he makes quiet comment and you are annoyed. Look out, Doctor! The patient comes first; against his life an extra scar or two counts for nothing.

Your assistant comments on the amount of hemorrhage, but you go on and cut two or three more vessels, not waiting for previous ones to be caught up and sutured. You are a speed operator, expecting the assistant to mop up the blood while you speed on on high gear. He knows better how much blood has been lost than you do. Listen to him and put brakes on your scalpel. The patient comes first, not your record for fast operating.

Waiting for the Clinic

The case is a most interesting one, just adapted for demonstrating that new technic in your clinic tomorrow. How proud you will be after the triumphant operation! But Nurse 'phones you from the hospital six hours before the clinic, as she is worried. You are also, but you put it aside and direct the administration of stimulants, etc. When the clinic hour comes the patient is dead. Comment about the patient coming first is superfluous.

Then, too, there is the other side: haste. The patient is in shock and you ought to wait. Do you always do so? Remember, the interest of the patient dictates delay and certain pre-operative measures. Your convenience, or your clinic, are as nothing beside these more important things.

Medical Golden Rule

Do unto your patient even as you would that some other doctor should do unto you were you his patient. Follow this rule and the patient will always be first.

The instances cited are real ones, principally occurring in institutional work. Since such work is becoming so general it is well for physicians so engaged to take soundings from time to time and to realize that the humanities are very apt to be neglected when patients are handled in bulk.

Sluggish Bowel Action in Childhood

is usually due to errors in feeding. Subjecting these fundamentals to the customary careful correction,

INTEROL

may be administered coincidentally to relieve the immediate condition.

Dosage in Children

Begin with a half to one teaspoonful, 3 times a day before meals. Increase or decrease dose until one good movement is obtained daily. Then gradually decrease to the point where a small dose at bedtime will maintain this result.

This pure, tasteless and odorless mineral oil—notably free from the greasiness common to such products—has proved of exceptional value as a safe and dependable means of moving the bowels of young children, and this without the griping, straining and after-constipation by which the use of castor oil and other drastic cathartics is so frequently attended.

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"He who puts up at the first Inn he comes to, very often passes a bad night."
Proverb of Italy—

The same holds true of the physician who does not carefully discriminate in his choice of a drug, or combination of drugs, for each individual case.

For the removal of effused fluid—dropsy— in loss of cardiac compensation in valvular disease—in chronic Brights, in Post-Scarlatinal Nephritis, or in ascites from Hepatic disease, **ANASARCIN TABLETS** secure prompt and satisfactory results, because **ANASARCIN** is a carefully worked out, scientifically tested and proven combination of agents, which overcome circulatory stasis, bring about resorption of effused fluid and elimination of both urinary solids and fluids.

ANASARCIN TABLETS are designed to act specifically.

That they do so act can easily be established by clinical test. Convince yourself, Doctor

Sample, literature, case reports, etc., on request

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The fault is not wholly with the physician. Go into the hospital wards unexpectedly, especially at night, and note what is being done and what is being neglected. Nurses, orderlies, clerks and even superintendents are very human, and one of the attributes of humanity is to be inhumane in small things. We see it every day, but it is deplorable when it occurs in a hospital.

Doctor, you who may thoughtlessly bulk your work, forgetting the individual patient in the maze of detail that enmeshes you, you may have an awakening some day. You may take sick far away from home and among total strangers, and you are taken to a hospital. May a kind Providence grant that it be a small one, not one of the immense hospitals run on the basis of factory efficiency! You will then be in position to view a hospital from the standpoint of a patient. Perhaps you may then have time to think soberly over the Clinical Golden Rule, The Patient First.

The Sheppard-Towner Maternity Act

REFRAINING from caustic criticism or enthusiastic support of the much-discussed maternity act, this journal has awaited eventualities. Undoubtedly there was much to criticise in the bill first introduced into Congress; but these features were eliminated before final passage. It must be conceded that the fundamental purposes of the act are good. All of the States of the Union except New York, Maine, Massachusetts and Rhode Island have entered into the joint federal and state agreement, these states disagreeing more on legal grounds than upon medical or sociologic ones. It will be observed that the states objecting are in one section of the country and are noted for conservatism, which is a good thing to balance opinion in the country at large. Thus far the medical profession has not met with any disasters through the operation of this law. Apparently the law has waked up states to their obligations to mothers and children, and coming at the time when women were given the suffrage it is more than likely that scientific medical and welfare supervision of motherhood and infancy will be promoted, thus aiding the medical profession.

The United States Supreme Court having decided that the Child Labor Law is unconstitutional, it may be that the Maternity Act will also be regarded as an intrusion on the prerogatives of the states; but this is purely a legal matter to be determined by the courts. Even so, states will now be compelled to do something in the matter of child labor, which will be a good thing in the long run.

As we view it, the main thing to avoid is *bureaucracy*.

BEST CURRENT MEDICAL THOUGHT

Evidences of Tonsillar Infection

Maxwell H. Kaiden (*N. Y. Med. Jour.*, Aug. 2, 1922) states that the following four points are of importance as evidence of localization of primary focal infection in the tonsils:

1. A history of repeated sore throats. Such history can usually be obtained. By sore throat I do not necessarily mean frank follicular tonsillitis. Experience has shown that a patient may suffer from frequent follicular tonsillitis and show no systemic disorders or sequelæ beyond the febrile disturbance at the time of the attack. On the other hand, a patient may never have had any attack of follicular tonsillitis, he may even never complain of a sore throat, yet his tonsils may be the site of a focal infection through which organisms and toxic material may gradually or suddenly be absorbed or thrown into the circulation, thus causing the various rheumatic manifestations already referred to.

Such difference in action between acute follicular tonsillitis and a chronically inflamed tonsil may perhaps be best compared to other organs where evident inflammation produces spectacular local symptoms, while the slow insidious inflammation of the same organs may be later responsible for farreaching serious systemic disorders. Alveolar inflammation, for example, causes no more than a local abscess, while an apical tooth abscess although minute, difficult of recognition and diagnosable by the aid of the X-ray alone, may be the cause of socalled chronic rheumatism. Similarly acute appendicitis may cause violent acute illness calling for immediate and radical intervention, while chronic appendicitis may produce chronic dyspepsias lasting for years. Indeed, is it not possible that many etiologically puzzling systemic diseases, such as myocarditis, arteriosclerosis, chronic nephritis and diabetes have their origin in some insidious chronic infection in the body not recognizable by our present crude methods of diagnosis, but which we hope later to be able to recognize and treat medically or surgically before systemic effects become manifests. As far as the tonsils are concerned, fortunately, they can be easily seen and examined, and if we can establish the relationship between diseased tonsils and rheumatic manifestations, it should call for early removal of the tonsils, even before rheumatic symptoms set in. This applies particularly when the onset of cardiac disease is feared.

2. When the tonsils are diseased, the anterior pillars present a characteristic red, "corned beef" appearance. This is in marked contrast to the remainder of the mucous membrane of the oropharynx. The characteristic color may be confined to a narrow strip of the free border of the pillar, or in some neglected cases, the entire pharynx may present this appearance. A pillar of this color always denotes a chronically diseased tonsil. This coloration of the anterior pillar is especially noticeable in the chronically diseased tonsils of adults.

3. Simultaneous pressure on the anterior pillar and on the tonsil with two tongue depressors, one held in each hand, causes exudation of a cheesy whitish material.

4. Most cases of chronically inflamed tonsils, particularly in children, show enlarged tonsillar lymph nodes at the angle of the jaw. During an acute exacerbation these nodes may also become tender.

Promoting a Favorable State of Mind

On the borderland of illness or convalescence, patients frequently tend towards a morbid state of mind.

The usual habits of active life perhaps have been, or must be suspended. Daily existence seems one negation after another. And most irksome of all is the restricted diet.

In such cases, when even the limited use of coffee or tea is contra-indicated, Instant Postum may be a source of much comfort and satisfaction, and therefore a vital factor in promoting a brighter mental outlook.

Instant Postum is one of the most convenient of beverages for sick-room or hospital use, since it is prepared instantly in the cup by the addition of hot water, and may be purchased from the nearest grocer at moderate cost.

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Chronic Appendicitis

John A. Lichty (*J. A. M. A.*, Sept. 9, 1922) says the diagnosis can be made with only a certain degree of assurance, depending on whether a history of an acute attack can be developed. Without such a history, physical signs and laboratory tests must be taken at a considerable discount. In 400 chronic cases in which operation was performed only 217 patients gave a satisfactory history of having had acute attacks of abdominal pain which could be interpreted as being of the appendix.

It will be found best, therefore, to make the diagnosis by exclusion. In this way it may be possible to eliminate certain diseases, such as chronic peptic ulcer. "latent gallstone," cholecystitis, stone in the right ureter or in the kidney, certain chronic pelvic diseases, the various ptoses of the abdominal organs, and also certain so-called endocrine disturbances, as well as the more common neuroses. To do this, a thorough routine physical examination should be undertaken, which should be followed by test meals, and examinations of the stools, of the blood, including the Wassermann test, and of the urine, including kidney efficiency tests. A roentgen-ray examination of the entire intestinal tract may be of great value, not so much in giving direct information of the appendix as in determining the presence or absence of disease elsewhere. His conclusions are:

1. The diagnosis of chronic appendicitis is often beset with difficulties.
2. While surgery is the accepted treatment, the results are frequently unsatisfactory.
3. The comparative satisfactory results following operation for acute appendicitis are convincing evidence of the necessity for a more careful study of the more or less acute conditions of the abdomen. Prevention of chronic appendicitis is easier than cure.
4. Hospital statistics bearing upon the operative results of chronic appendicitis are unreliable, as the recovery from the operation is considered as synonymous with a cure.
5. In certain cases a course of medical treatment is necessary before a cure is realized. In other cases, surgery may be contraindicated even though medical treatment affords only an approximate cure.

Physiological Adjuvant in Rest Cure of Tuberculosis

S. Adolphus Knopf (*N. Y. Med. Jour.*, Aug 16, 1922), in giving detailed information on how to teach the tuberculous patient the diaphragmatic breathing, says:

To be sure that the patient understands exactly what is meant by diaphragmatic breathing, it is well to teach it in the following manner: Place the patient in a sitting or half reclining position, with his feet extended and slightly separated Then tell him to inhale as slowly as the physician's hand with index finger pointing moves upward along the limb, beginning at the toes on the right foot, crosses the abdomen to the left, and then stops a second to exhale while the hand moves slowly in the downward direction to the left foot. The physician or nurse teaching this breathing should repeat this procedure a few times until the patient fully grasps what he is asked to do and does it correctly. To this end it is well for the physician, while indicating the direction and duration of the inhalation with one hand, to place the other hand over the upper portion of the lungs and thus observe whether they are at complete or at least at relative rest. When the patient is lying in the complete recumbent position, with head slightly elevated, the diaphragmatic breathing will be materially aided by placing a very small pillow or a folded bath towel under the small of the back.

This diaphragmatic breathing not only gives rest to the lesions in the upper lobes, but also causes a better circulation in the lower extremities and abdominal viscera especially aiding the hepatic function, all of which is so essential for patients who are ordered complete physical rest on a reclining chair or bed. As a rule, the patient of average intelligence will soon learn this method of breathing and will enjoy it because it gives him physical comfort and something to occupy his mind. In fact, this slow type of breathing is conducive to quiet and serenity; a psychic condition most desirable in the rest cure of tuberculosis but as a rule absent in majority of the patients.

The Percy Method of Treating Cancer of the Uterus Applied to Treatment of Cancer of the Rectum

William H. Kiger, M.D., F.A.C.S. (Amer. Proctologic Society, May 2, 1922), said that, since he adopted the Percy cauterization method to the treatment of cancer of the rectum three years ago, he had used it in all his cases, a total of forty-five, without operative mortality; and that from these he had selected three typical cases to report. It had been amply demonstrated by his series of cases that incising the sphincters with the cautery makes it possible to preserve the greater part of them as useful structures, and he does not expect to have to report later that the anus was converted into a ring of scar tissue by the treatment. His technic depends somewhat on the location of the growth. If the tumor is not very large or not more than half the circumference of the bowel is involved, he incises both sphincters with the cautery knife which Percy uses in incision of the breast. The knife should be heated to a bright cherry red in order to cut through quickly, which prevents too much destruction of the severed ends of the muscles, and at the same time sears the surfaces sufficiently to prevent transplantation of cancer cells from the exposed mass in the rectum. This incision definitely exposes the growth, and, if it is situated near the sphincters, can be extended into the mass, but need not go through it since the heat infiltration is the important factor. His water cooled speculum can be introduced so as to protect the uninvolved srtuctures, and the cautery head laid on the growth and left from forty to sixty minutes or until the mass is thoroughly hot or pasteurized, care being taken to avoid carbonization of any of the involved structures. If the whole circumference of the bowel is involved, the water cooled jacket or the small water cooled vaginal speculum can be used to cover the heating iron and protect the sphincters from prolonged action of the heat. Either of these instruments may be found useful in some situations or conditions where his special water cooled rectal specula may not fully meet the purpose. He has also had two extra sized cartridge shaped heating heads made to more quickly expose massive rectal cancers to a greater body of heating surface, till by constant contact the parts are thoroughly and completely heated through.

REVIEWS OF PRACTICAL BOOKS FOR THE GENERAL PHYSICIAN ONE LEAF OVER

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Protein	15.8
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Calories (per pound)	1480.46

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Look for this signature W. K. Kellogg

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Book Reviews

Manual of Psychiatry

Edited by Aaron J. Rosanoff, M.D. John Wiley & Sons, Publishers, New York City. 684 pages. Price, $4.00 net.

The present work is constructed on a special basis. The chief portion of the book was written by a well-known French psychiatrist, J. Rogues de Fursac. A chapter on Psychology is presented by H. L. Hollingworth. Mary C. Jarreth deals with application of sociology and psychiatry. Dr. C. A. Neymann writes on the characteristics of the cerebro-spinal fluid. The editor himself endeavors to adapt the French views of psychiatry to the needs of the English speaking readers. He also added a few chapters on subjects of a special interest to the American psychiatrists.

The construction of such a work and the compilation of a great variety of subjects suitable to an American reader and based originally on a foreign point of view is quite odd and, as it has shown, very interesting. The book has undergone five editions. The editor has also found useful to describe psychoanalysis and especially the intelligence scale for testing mental standards. Every one of the writers of the book has acquitted himself in a creditable manner, and the entire work deserves to be commended as a useful manual not only to the specialist, but also to the general practitioner.—A. G.

Hughes' Practice of Medicine—Including a Section on Mental Diseases and One on Diseases of the Skin—Twelfth Edition

By R. J. E. Scott, M.A., B.C.D., M.D., New York. Fellow of the New York Academy of Medicine; Fellow of the American Medical Association; formerly Attending Physician to the Demilt Dispensary; formerly Attending Physician to the Bellevue Dispensary; author of "The State Board Examination Series"; editor of "Witthaus' Textbook of Chemistry," "Witthaus' Essentials of Chemistry and Toxicology," "The Practitioner's Medical Dictionary," Gould and Pyle's "Cyclopedia of Medicine and Surgery," etc. With 63 illustrations. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia. Price, $4.00.

This small manual needs no introduction. It has survived eleven—and is entering upon its twelfth edition. It is as handy a volume as it previously was. Several new sections have been added, such as those on Trench Fever, Notifiable Diseases, Poisoning by Wood Alcohol, Acidosis, Functional Activity of the Kidneys, Coleman's Diet for Gastric Ulcer, von Jaksch's Anemia, Leukanemia, Disorders of the Salivary Glands, Sinus Irregularity and Premature Contractions of the Heart, and Classification and

(*Continued one leaf over*)

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By Stewart Paton, M.D. Charles Scribners' Sons, New York City. Price, $1.50.

The main object of this work is to show that the final test of a sound mind is sane conduct, not merely intelligent thinking; also that physical and mental qualities enable a person to face critical situations in life successfully, but not merely to sit down and think about them.

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The book is written in an interesting manner and is to be commended for its highly sound views.—A. G.

Nerve Exhaustion

By Maurice Craig, M.D., F.R.C.P., Lecturer in Psychological Medicine, Guy's Hospital. Cloth, 148 pages. Lea & Febiger, 706 Sansom Street, Philadelphia, Pa. Price, $2.25.

The author has undertaken to present his subject from the standpoint of psychology, and his every effort has been to avoid the ultra-psychological bearing of the discussion, with its maze of technicalities that so serve to confuse the reader that the average physician tends to pass up the whole subject of psychology. This no physician can afford to do, which this book makes clear, more particularly as regards the prevention of nerve exhaustion. The book is sensible and useful, though there is some occasion to call in question the wisdom of some of the recommendations regarding drugs, more particularly those of mixed composition and uncertain status pharmacologically.—T. S. B.

The Healthy Child From Two to Seven

A Handbook for Parents, Nurses and Workers for Child Welfare. Containing the Fundamental Principles of Nutrition and Physical Care, including Sections on Child Nature. Training and Education, and Safeguarding the Nervous System during the Pre-school Years. By Francis Hamilton MacCarthy, M.D., Assistant Professor of Diseases of Children, Boston University. The Macmillan Company, New York, 1922. Price, $1.50.

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(*Continued one leaf over*)

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conditions are ascribed now largely to the vitamines it is known to contain.

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and specimens of these bodies were isolated by him from an alcoholic extract of the oil which he called morrhuol. Chapoteaut believed these to be the active medicinal principles of cod liver oil and the clinical findings of French and other authorities, such as Germain See, Dujardin Beaumetz, Sommerbrodt, Penzoldt a.s.o. seem to confirm those claims, that the therapeutic value of cod liver oil is dependent chiefly upon the percentage of those alkaloid principles or what would now more properly be denominated as vitamines, present in the oil.

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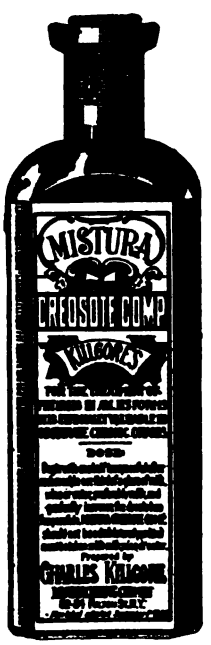
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(Continued one leaf over.)

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Colonel Herman A. Metz, president of the H. A. Metz Laboratories, Inc., was nominated for Congress on the Democratic ticket in the Seventeenth Congresional District in the City of New York in the primaries on September 20.

Colonel Metz was formerly a representative in Congress from the Tenth Congressional District of Brooklyn and made a very enviable record as a member of the lower House.

Colonel Metz was the first Comptroller of the Greater City of New York, and through his efforts the city was placed on a firm financial foundation.

Diuretics

G. Strooman (Therap. Halbmonatsh, July, 1921) cites a number of nephritic cases in which sudden diminution in the quantity of the urine occurred after initial diuresis as the result of continued ingestion of the xanthine bodies. The return of diuresis could then only be brought about by stopping the administration of the theophyllin or lessening its dose, or

(*Continued one leaf over*)

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A Compound Containing the Bile Salts Sodium Glycocholate, Sodium Taurocholate with Cascara Sagrada and Phenolphthalien

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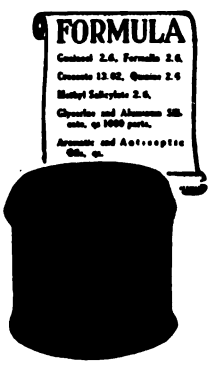
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THE Premises: Infection, Inflammation, Swelling, Fever, Pain.

THE Argument:

Pneumo-Phthysine

The Conclusion: Result, Relief from Pain, Reduction of Swelling and Fever. Resolution of Inflammation.

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Sterile

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Name_____

Address_____

by the use of the weaker Diuretin. Strooman has come to prefer Diuretin to the xanthines especially in cases of sclerotic kidney lesions. He employs this remedy in a course of closely succeeding dosage, beginning in the afternoon at perhaps 2 o'clock and giving, at intervals of one to one and a half hour, doses of 0.5 gms. up to eight times, rarely more.

Carl Pototsky (Therap. Halbmonatsh, April 1, 1921) having found that theobromine preparations such as Diuretin increase the secretion of salts in the urine even in animals with sodium chloride deficiency, suggests its use in epilepsy alongside of salt free diet and bromides in order to hasten the appearance of bromide action.

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Many physicians have found Merz Santol Comp. Capsules unsurpassed for happy effect in urethritis, cystitis, prostatic troubles, difficult micturition, etc. Dispensing physicians can now buy direct from the company in various quantities. Prices and samples will be sent gladly to AMERICAN PHYSICIAN readers, on request. Address: The Merz Capsule Co., Detroit, Mich.

An Effective Antiseptic That is Non-Caustic

The medical profession has long wished an antiseptic that would be thoroughly efficient, but at the same time non-caustic. Their wish can now be satisfied in Therapogen—an efficient antiseptic that is not only non-corrosive, but also non-toxic. Moreover, instead of destroying tissue together with the bacteria, as do most effective antiseptics, Therapogen actually stimulates granulation. It does not irritate wounds, but is soothing. It may be used on the most delicate membrances, even to the mucous membranes of the throat, nose, vagina, etc.

(*Continued one leaf over*)

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A safe and easy way. Results guaranteed. Treatment is painless and supportive, rather than depressant. No nervous period experienced. I also furnish a *Home Treatment* for Physicians to use in treating addicts at home, who for various reasons are unable to go to a Sanitarium.

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EVERY DAY doctors are advising a rest, a trip to a sanitarium, a visit to a specialist, an operation—anything to get rid of their old, stubborn cases of

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Maybe you are doing, or are about to do this very thing. You are losing possibilities of dollars and prestige, *to say nothing of the satisfaction of having won a hard fight.*

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in many of these cases. If you will try *SUPPOS. PROSTANS* thoroughly in one or two cases you will surely convince yourself and will thereafter *keep the business you've been turning away.*

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I enclose $5.00, send me six boxes of Suppos. Prostans (worth $9.00) also the above book and "Successful Prostatic Therapy"—free.

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The best evidence of this is the repeat orders received from physicians and druggists.

Nervine-Tonic and Anticongestive, with calmative and corrective action on the bladder. Employed with much satisfaction in ovarian congestion and congestive dysmenorrhea; weak pregnancy and deficient lactation; menopause and its phenomena, including hallucinations, hot flushes, etc.; nervous and menstrual derangements after "flu," and the troubles of adolescent girls. Sterility often responds after 2 or 3 bottles if no lesion exists.

Unlike similar products, VIBURNO is palatable and pleasant to take. Dose: 2 teasp. (undiluted) t.i.d. before meals.

Put up in 11 oz. bottles

Sample and Formula on Request

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Sal Hepatica

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Samples on request

Bristol-Myers Co.
NEW YORK



It is ideal as a sterilizing solution for instruments, dressings, gloves, hands, etc. Its odor is aromatic and does not cling to the clothes like the cresols and other tarry acids. It is freely soluable in water, alcohol, ether and glycerin and readily mixes with oils in the compounding of salves, etc. It is a clear golden liquid. It is a soluble thymol-terpene compound of definite antiseptic properties and of wide possibilities.

Its use in general surgery, in open wounds, even in the abdominal cavity, is an aid to healing. For its use no complicated technic is required, as is the case with Dakin solution. Simply *apply* Therapogen—the desired strength. It is valuable in obstetric work; in gynecology, for inflammations, and before and after operations; in gonorrheal and other forms of urethritis, vesiculitis, etc.; in eye, ear, nose and throat diseases; in skin diseases of parasitic or bacterial origin, particularly eczema, ringworm, etc. In fact, in every case where an efficient antiseptic is indicated Therapogen is the choice, because it not only does the work, but it does not destroy tissue, but rather helps build it up.

The manufacturer's claims are borne out by the fact that it is used in many of the large hospitals of the country, such as the Preston Retreat, of Philadelphia. It is not advertised to the general public, but is strictly an ethical preparation.

A sample will be sent free to any member of the profession upon request to the manufacturing chemist, Theo. Meyer, 213 S. 10th St., Philadelphia.

Lyman O. Fiske, who for the past two years has been connected with the Hazard Advertising Corporation, severed his connections with that agency and on June 1st, became associated with the Metropolitan Advertising Company, 111 Broadway, New York. Mr. Fiske has been active among chemical, dyestuff, and pharmaceutical fields. His experience as business manager of the *Dramatic Mirror* for many years particularly equips him for personal advertising service to his clients.



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NEW YORK AND LONDON

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There is no remedy more effective and reliable in controlling acute colds of the nose and throat than Pond's Extract. Used as a douche or gargle—a tablespoonful to a half glass of warm water—it promptly allays irritation, reduces congestion and gives gratifying relief from the smarting and stinging that are always distressing.

REGULIN

Presents a new principle in the conquest of chronic constipation that of treating the bowel contents rather than the bowels themselves. Corrects the physical condition of the intestinal mass — restores its normal bulk and softness—and the bowels resume their natural functioning. REGULIN is a true bowel corrective.

LISTERS DIABETIC FLOUR

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Grow Less and Less

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Worldwide clinical results extending over thirty years past should be conclusive evidence to the most skeptical, that a palatable combination of the alkaloid-amino acid principles of pure *Cod Liver Oil* with a *Creosote* rich in guaiacol, such as represented in

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exerts its alterative tonic and stimulant action alone upon metabolism by virtue of its constituents and will be found of great service in:—**Rickets, Scrofulosis** and similar **"deficiency diseases."**

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of gonorrheal or non-infectious origin, the best instillate is an antiseptic that, while absolutely effective, does not irritate the delicate mucous membrane.



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AP

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Our attitude in applying these standards is not one of narrow technicality but of *practical service.*

Advertisements of the following classes are *not* acceptable for the pages of THE AMERICAN PHYSICIAN:

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Pharmaceuticals charging excessive price; price not warranted by content and by trade conditions.

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It is palatable to the nth degree and gives the physician a cooling and refreshing beverage, free from any hint of medicine, yet pregnant with therapeutic value.

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French Lick Springs Hotel Co.
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[*Continued over from preceding page*]

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H_2O_2 12v

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